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A

TREATISE

CONCERNING ETERNAL

AND

IMMUTABLE MORALITY.

BY

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FORMERLY MASTER OF CHRIST'S COLLEGE IN CAMBRIDGE.

WITH A

PREFACE
BY THE RIGHT REVEREND FATHER IN GOD, EDWARD
LORD BISHOP OF DURHAM.

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PREFACE

BY EDWARD, LORD BISHOP OF DURHAM.

The author of the following Treatise was the very learned Dr. Ralph Cudworth, whose name is so well known to them that are acquainted with the best authors, as to render it needless to say more in behalf of this piece, than that it was composed by the same person, that wrote the *True Intellectual System of the Universe.* This author, being early prepared with a nice skill in most of the learned languages, and having joined to a clear and solid judgment an indefatigable application to study, began soon to form vast designs for the service of religion; and in subserviency thereto to reduce his large treasure of learning to proper heads or subjects, which he proposed one time or other to improve into complete discourses.

He lived in an age, when the disputes concerning Liberty and Necessity, mingling with the political schemes of the leaders of opposite parties, helped to cause strong convulsions in the state, and to spread no less fatal an influence upon the principles and manners of the generality of people. For debauchery, skepticism and infidelity, as he complains,[1] flourished in his time, and grew up, in his opinion, from the doctrine of the fatal necessity of all actions and events, as from its proper root.[2] Such a belief, upon whatsoever grounds or principles maintained, as he conceived, did serve the design of Atheism and undermine Christianity and all religion; as taking away all guilt and blame, punishments and rewards; and plainly rendering a day of judgment ridiculous. And he thought it evident, that some in those days pursued those notions, in order to that end.

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[1] Epistle Dedicatory, before his Intellectual System.

[2] Preface to the Intellectual System.

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These sentiments disposed him to bend much of his study this way, and to read over all the ancient philosophers and moralists, which he did with great accuracy. He then set himself to gather and answer all the ancient and modern arguments, for the necessity of all actions, which had been maintained by several persons, upon very different grounds. And many of his collections of this kind still remain, as so many monuments of his copious reading, judgment and industry.

He accordingly distinguished three sorts of Fatality, that he might treat of each apart. First, *Natural* or *Material*, which excluding God out of the scheme, and supposing senseless matter necessarily moved, to be the first principle and cause of all things, is truly and properly the atheistical fate. This he found defended by Epicurus of old, and to refute him and the other assertors of the atomic material necessity, he published his learned and unanswerable book, which he entitled the Intellectual System of the Universe.

Secondly, *Theologic* or *Divine* Fate, which indeed allows in words the existence of that perfect intellectual Being, distinct from matter, whom we call God; yet affirming that God irrespectively decrees and determines all things, evil as well as good, doth in effect make all actions alike necessary to us. In consequence whereof, God's will is not regulated by his essential and immutable goodness and justice: God is a mere arbitrary will omnipotent: and in respect to us, moral good and evil are positive things, and not so in their own nature, that is, things are good or bad because they are commanded or forbidden, and that which is now good might have been bad, and bad good, if the pure will of God at first had not determined them to be what they are at present.

Thirdly, the *Stoical* Fate, which constrains also the natural and moral actions of the universe, and makes necessity to be so intrinsical to the nature of every thing, as that no being or action could possibly be otherwise than it is. For all things, according to this notion, depend in a chain of causes all in themselves necessary, from the first principle of Being, who pre-ordered every event before it fell out, so as to leave no room to liberty or contingency any where in the world.

These two last hypotheses of Fatalism were but lightly touched in his Intellectual System, because he intended to give them a more particular and more ample consideration: however, ill health, a short life, or other reasons we know not, hindered him from finishing what the world earnestly expected, and no one that survived him was able to supply.

It is probable, that foreseeing the length of the work, and some of the hinderances, that afterwards fell out to retard and defeat it, he thought it best to contract his undertaking, and to treat in smaller volumes of those points that he judged to be most material and principal in this controversy.

In this view he drew up the book, with which the world is now presented, wherein he proves the falseness of the consequences with respect to natural justice and morality in God, which are deducible from the principles of those that maintain the second sort of fate, denominated by him Theologic. And thus it may be reckoned to be a sequel in part, of his first book against Material fate. Had it come abroad as early as it was written, it had served for a proper antidote to the poison in some of Mr. Hobbes's and other's writings, who revived in that age the exploded opinions of Protagoras and other ancient Greeks, and took away the essential and eternal discrimination of moral good and evil, of just and unjust, and made them all arbitrary productions of divine or human will.

Against the ancient and modern patrons of this doctrine no one hath written better than Dr. Cudworth. His book is indeed a demonstration of the truth of the contrary opinion; and is drawn up with that beauty, clearness and strength, as must delight as well as convince the reader, if I may judge of the affection of others, from the effect it had on me. It will certainly give a just idea of the writer's good sense, as well as vast learning.

We are not certain that this Treatise is quite so perfect as the author designed it: but it appears from the Manuscript that he transcribed the best part of it with his own hand, as if it was speedily to have been sent to the press.

His death following not long after, this, with several other manuscripts were locked up from the sight of the world for many years, and at last came into the hands of his grandson Francis Cudworth

Masham, Esq., one of the Masters in Chancery, whose temper is too beneficent and communicative to deprive the public any longer of a work that promises much benefit to it.

It is well known, that the loose principles, with regard to morality, that are opposed in this book, are defended by too many in our time. It is hoped also that the new controversies springing up, that have some relation to this subject, may be cleared and shortened by the reasons herein proposed. However that be, a book of sound sense and true learning is, at all times, in fashion ; and if any the least good shall follow, as there may much good from the publication of it ; or if even the memory of so great a man in all parts of learning divine and human, who was an honor to Emanuel College, where he was educated, and to Christ's College, where he afterwards presided, and indeed to the whole University of Cambridge, which he adorned, shall by these means be revived and perpetuated, it cannot be said to be published unseasonably.

E. DURESME.

TREATISE, ETC.

BOOK I.

CHAPTER I.

As the vulgar generally look no higher for the original of moral good and evil, just and unjust, than the codes and pandects, the tables and laws of their country and religion: so there have not wanted pretended philosophers in all ages who have asserted nothing to be good and evil, just and unjust, *φύσει καὶ ἀκινήτως*, naturally and immutably; but that all these things were positive, arbitrary and factitious only, *θετικὰ, νομιμὰ, ψηφισματώδη*. Such Plato mentions in his tenth book De Legibus, who maintained, *Τὰ δίκαια οὐδ᾽ εἶναι τὸ παράπαν φύσει, ἀλλ᾽ ἀμφισβητοῦντας διατελεῖν ἀλλήλοις καὶ μετατιθεμένους ἀεὶ ταῦτα· ἃ δ᾽ ἂν μετάθανται καὶ ὅταν, τότε κύρια ἕκαστα εἶναι γιγνόμενα τέχνῃ καὶ τοῖς νόμοις, ἀλλ᾽ οὐ δή τινι φύσει·* That nothing at all was naturally just, but men changing their opinions concerning them perpetually sometimes made one thing just, sometimes another; but whatsoever is decreed and constituted, that for the time is valid, being made so by arts and laws, but not by any nature of its own. And again in his Theætetus, *Ἐν τοῖς δικαίοις καὶ ἀδίκοις, καὶ ὁσίοις καὶ ἀνοσίοις, ἐθέλουσιν ἰσχυρίζεσθαι ὡς οὐκ ἐστὶ φύσει αὐτῶν οὐδὲν οὐσίαν ἑαυτοῦ ἔχον, ἀλλὰ τὸ κοινῇ δόξαν τοῦτο γίνεται ἀληθὲς τότε ὅταν δόξῃ καὶ ὅσον ἂν δοκῇ χρόνον· καὶ ὅσοι δὲ μὴ παντάπασι τοῦ Πρωταγόρου λόγον λέγουσιν ὧδε πῶς τὴν σοφίαν ἄγουσι·* As to things just and unjust, holy and unholy, not only the Protagoreans (of whom we shall treat afterward) but many other philosophers also confidently affirm, that none of these things have in nature any essence of their own, but whatsoever is decreed by the authority of the city, that is truly such when it is so decreed, and for so long time, viz. just or unjust, holy or unholy. And Aristotle more than once takes notice of this opinion in his Ethics. [1] *Τὰ δὲ καλὰ καὶ τὰ δίκαια περὶ ὧν ἡ Πολιτικὴ σκοπεῖται, τοσαύτην ἔχει διαφορὰν καὶ πλάνην ὥστε δοκεῖν νόμῳ μόνον εἶναι, φύσει δὲ μή·*

[1] Arist. Eth. Nicom. lib. i. cap. i.

Things honest and just, which politics are conversant about, have so great a variety and uncertainty in them, that they seem to be only by law and not by nature. And afterwards,[1] after he had divided *τὸ δίκαιον πωλιτικὸν*, that which is politically just into *φυσικὸν*, i. e. natural, *τὸ πανταχοῦ τὴν αὐτὴν ἔχον δύναμιν*, which has every where the same force, and *νομιμὸν*, *Ὃ ἐξ ἀρχῆς οὐθὲν διαφέρει οὕτως ἢ ἄλλως· ὅταν δὲ θῶνται, διαφέρει*, i. e. legal, which before there be a law made, is indifferent, but when once the law is made, is determined to be just or unjust. Which legal, just and unjust, (as he afterwards expresses it) are *ὅμοια τοῖς μέτροις οἰνηροῖς καὶ σιτηροῖς*, like to wine and wheat measures, as pints and bushels, which are not every where of equal bigness, being commonly lesser with those that sell, and greater with those that buy. Then he adds, *Δοκεῖ δὲ ἐνίοις πάντα εἶναι τοιαῦτα, ὅτι τὸ μὲν φύσει ἀκίνητον καὶ πανταχοῦ τὴν αὐτὴν ἔχει δύναμιν, ὥσπερ τὸ πῦρ καὶ ἐνθάδε καὶ ἐν Πέρσαις καίει. Τὰ δὲ δίκαια κινούμενα ὁρῶσι·* Some there are that think that there is no other just or unjust, but what is made by law and men, because that which is natural is immutable, and hath every where the same force, as fire burns alike here and in Persia; but they see that jura and justa, rights and just things are every where different.

2. The philosophers particularly noted for this opinion in Plato, are Protagoras in his Theætetus, Polus and Callicles in his Gorgias, Thrasymachus, and Glauco in his Politics, but Diogenes Laertius tells us of some others, as of Archelaus, Socrates's master, that held *τὸ δίκαιον εἶναι καὶ τὸ αἰσχρὸν οὐ φύσει ἀλλὰ νόμῳ*, that just and dishonest are not so by nature, but by law; and (as I conceive) Democritus; for after he had set down his opinion concerning happiness, or the chief end, he adds this as a part of the Democritical philosophy, *ποιητὰ νομιμὰ εἶναι*, which I understand thus, that things accounted just or unjust, are all factitious or artificial things, not natural; nothing being real or natural but atoms and vacuum, as the following words are, *φύσει δὲ ἄτομα καὶ κενόν*. The same is noted by Diogenes also concerning Aristippus, Plato's contemporary, that he asserted, *μηδὲν εἶναι φύσει δίκαιον ἢ αἰσχρὸν, ἀλλὰ νόμῳ καὶ ἔθει·* That nothing was good or evil otherwise than by law or custom. And Plutarch, in the Life of Alexander, tells us of Anaxarchus, that was Aristole's equal, that when Alexander repenting, sadly lamented the death of Clitus, whom he had rashly slain, he read this lecture of philosophy to him to comfort him, *Πᾶν τὸ πραχθὲν ὑπὸ τοῦ κρατοῦντος, δίκαιον εἶναι·* That whatsoever is done by the supreme power, is *ipso facto* just. And Pyrrho, the Etiensic philoso-

[1] Arist. Eth. Nicom. lib. v. cap. x.

pher, and father of the Skeptics, that was Anaxarchus's scholar, seems to have been dogmatical in nothing else but this, *Οὔτε καλὸν οὔτε αἰσχρὸν, οὔτε δίκαιον οὔτε ἄδικον, καὶ ὁμοίως ἐπὶ πάντων μηδὲν εἶναι τῇ ἀληθείᾳ, νόμῳ δὲ καὶ ἔθει πάντα τοὺς ἀνθρώπους πράττειν·* That there is nothing good or shameful, just or unjust, and so likewise as to all things, that there is nothing so in truth, but that men do all things according to law and custom.—

3. After these succeeded Epicurus, the reviver of the Democritical philosophy, the frame of whose principles must needs lead him to deny justice and injustice to be natural things; and therefore he determines that they arise wholly from mutual pacts, and covenants of men made for their own convenience and utility, and laws resulting from thence. "*Ὅσα τῶν ζώων μὴ ἠδίνατο συνθήκας ποιεῖσθαι τὰς ὑπὲρ τοῦ, μὴ βλάπτειν, ἀλλὰ μηδὲ βλάπτεσθαι, πρὸς ταῦτα οὐθέν ἐστι οὐδὲ δίκαιον οὐδὲ ἄδικον. ὡσαύτως δὲ καὶ τῶν ἐθνῶν ὅσα μὴ ἠδύνατο ἢ ἐβούλετο τὰς συνθήκας ποιεῖσθαι τὰς ὑπὲρ τοῦ μὴ βλάπτειν μηδὲ βλάπτεσθαι· οὐκ ἦν τὶ καθ' ἑαυτὸ δικαιοσύνη, ἀλλὰ ἐν ταῖς μετὰ ἀλλήλων συντροφαῖς, καθ' ὁπηλίκους δήποτε ἀεὶ τόπους συνθήκη τις ὑπὲρ τοῦ μὴ βλάπτειν ἢ βλάπτεσθαι·* Those living creatures that could not make mutual covenants together not to hurt or to be hurt by one another, could not for this cause have any such thing as just or unjust amongst them. And there is the same reason for those nations that either will not, or cannot make such mutual compacts not to hurt one another. For there is no such thing as justice by itself, but only in the mutual congresses of men, wheresoever they have entered into covenant not to hurt one another.—The late compiler of the Epicurean system expresses this philosopher's meaning after this manner: [1]Sunt quidam qui existimant ea quæ justa sunt, esse secundum propriam invariatamque naturam justa, et leges non ista justa facere, sed duntaxat præscribere juxta eam quam habent naturam; verum res non ita se habet. There are some that think that those things that are just, are just according to their proper, unvaried nature, and that the laws do not make them just, but only prescribe according to that nature which they have. But the thing is not so.—

After Epicurus, Carneades, the author of the new academy, as Lactantius testifieth, was also a zealous assertor of the same doctrine.

4. And since in this latter age the physiological hypotheses of Democritus and Epicurus have been revived, and successfully applied to the solving of some of the phenomena of the visible world, there have not wanted those that have endeavored to vent also those other paradox-

[1] Gassendus Syntagm.

es of the same philosophers, viz. that there is no incorporeal substance, nor any natural difference of good and evil, just and unjust; and to recommend the same under a show of wisdom, as the deep and profound mysteries of the atomical or corpuscular philosophy. As if senseless matter and atoms were the original of all things, according to that song of old Silenus in the poet:[1]

> Namque canebat uti magnum per inane coacta
> Semina terrarumque animæque marisque fuissent,
> Et liquidi simul ignis; ut his exordia primis
> Omnia, et ipse tener mundi concreverit orbis.
>
> He sung the secret seeds of nature's frame;
> How seas, and earth, and air, and active flame,
> Fell through the mighty void, and in their fall
> Were blindly gathered in this goodly ball.

Of this sort is that late writer of Ethics and Politics, who asserts: Doctrinas de justo et injusto, bono et malo, præter leges in unaquaque civitate constitutas, authenticas esse nullas: et utrum aliqua actio justa vel injusta, bona vel mala futura sit, a nemine inquirendum esse præterquam ab iis ad quos legum suarum interpretationem civitas demandaverit. That there are no authentic doctrines concerning just and unjust, good and evil, except the laws which are established in every city: and that it concerns none to inquire whether an action shall be reputed just or unjust, good or evil, except such only whom the community have appointed to be the interpreters of their laws.—

And again: [2]Ad civitatem pertinet etiam Christianam, quid sit justitia, quid injustitia, sive peccatum contra justitiam, determinare. Even a christian government hath power to determine what is righteous, and what is the transgression of it.—

And he gives us the same over again in English:[3] In the state of nature nothing can be unjust; the notions of right and wrong, justice and injustice have there no place; where there is no common power, there is no law; where no law, no transgression. [4]No law can be unjust. Nay, temperance is no more φύσει, naturally, according to this civil (or rather uncivil) philosopher, than justice. [5]Sensuality in that sense in which it is condemned, hath no place till there be laws.

5. But whatsoever was the true meaning of these philosophers, that

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[1] Virg. Eclog. vi. [2] Hobbes de Cive, p. 343. [3] Leviathan, p. 63.
[4] Ibid. p. 182. [5] Ibid. p. 25.

affirm justice and injustice to be only by law and not by nature (of which I shall discourse afterwards,) certain it is, that divers modern theologers do not only seriously, but zealously contend in like manner, that there is nothing absolutely, intrinsically and naturally good and evil, just and unjust, antecedently to any positive command or prohibition of God; but that the arbitrary will and pleasure of God, (that is, an omnipotent Being devoid of all essential and natural justice) by its commands and prohibitions, is the first and only rule and measure thereof. Whence it follows unavoidably, that nothing can be imagined so grossly wicked, or so foully unjust or dishonest, but if it were supposed to be commanded by this omnipotent deity, must needs upon that hypothesis forthwith become holy, just and righteous. For though the ancient fathers of the christian church were very abhorrent from this doctrine, (as shall he showed hereafter) yet it crept up afterward in the scholastic age, Ockham being among the first that maintained: Nullum actum malum esse nisi quatenus a Deo prohibitum, et qui non possit fieri bonus si a Deo præcipiatur; et e converso. That there is no act evil but as it is prohibited by God, and which cannot be made good if it be commanded by God. And so on the other hand as to good.—And herein Petrus Alliacus and Andreas de Novo Castro, with others, quickly followed him.

But this doctrine hath been since chiefly promoted and advanced by such as think nothing so essential to the Deity, as uncontrollable power and arbitrary will, and therefore that God could not be God if there should be any thing evil in its own nature which he could not do; and who impute such dark counsels and dismal actions unto God, as cannot be justified otherwise than by saying, that whatsoever God can be supposed to do or will, will be for that reason good or just, because he wills it.

Now the necessary and unavoidable consequences of this opinion are such as these: Amare Deum φύσει esse ἀδιάφορον, et moraliter bonum solum modo quia a Deo jubetur: prohibere Dei amorem vel præcipere Dei odium, non pugnare cum Dei natura, sed tantum cum voluntate libera. Non repugnare juri divino naturali præcipere peccata. Deum posse imperare blasphemiam, perjurium, mendacium, etc. Deum posse præcipere contrarium ut omnibus Præceptis decalogi, ita potissimum primo, secundo, tertio. Sanctitatem non esse conformitatem cum natura Dei; Deum posse hominem obligare ad impossibile; Deum nullam habere naturalem inclinationem in bonum creaturarum; Deum jure posse creaturam insontem æternis cruciatibus damnare. That to love God is by nature an indifferent thing, and is morally good only,

because it is commanded by God: that to prohibit the love of God, or command the hatred of God, is not inconsistent with the nature of God, but only with his free will; that it is not inconsistent with the natural equity of God to command blasphemy, perjury, lying, etc.; that God may command what is contrary, as to all the precepts of the Decalogue, so especially to the first, second, third; that holiness is not a conformity with the nature of God; that God may oblige man to what is impossible; that God hath no natural inclination to the good of the creatures; that God can justly doom an innocent creature to eternal torment.—All which propositions, with others of like kind are word for word asserted by some late authors. Though I think not fit to mention the names of any of them in this place, excepting only one, Joannes Szydlovius, who in a book[1] published at Franeker, hath professedly avowed and maintained the grossest of them. And yet neither he, nor the rest are to be thought any more blame-worthy herein, than many others, that holding the same premises have either dissembled, or disowned those conclusions which unavoidably follow therefrom. But rather to be commended for their openness, simplicity and ingenuity, in representing their opinion nakedly to the world, such as indeed it is, without any veil or mask.

Wherefore since there are so many, both philosophers and theologers, that seemingly and verbally acknowledge such things as moral good and evil, just and unjust, that contend notwithstanding that these are not *φύσει*, by nature, but *θέσει*, institution, and that there is nothing naturally or immutably just or unjust; I shall from hence fetch the rise of this ethical discourse or inquiry *περὶ τῶν ἀγαθῶν καὶ κακῶν, δικαίων καὶ ἀδίκων, καλῶν καὶ αἰσχρῶν*, concerning things good and evil, just and unjust, laudable and shameful;—(for so I find these words frequently used as synonymous in Plato, and other ancient authors,) demonstrating in the first place, that if there be any thing at all good or evil, just or unjust, there must of necessity be *δίκαιον φυσικὸν καὶ ἀκίνητον*, something naturally and immutably good and just.—And from thence I shall proceed afterward to show what this *δίκαιον φυσικὸν ἀκίνητον καὶ ἀιώνιον*, natural, immutable, and eternal justice is, with the branches and species of it.

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[1] Vindiciæ quæstionum aliquot difficilium.

CHAP. II.

1. Wherefore in the first place, it is a thing which we shall very easily demonstrate, that moral good and evil, just and unjust, honest and dishonest (if they be not mere names without any signification, or names for nothing else, but willed and commanded, but have a reality in respect of the persons obliged to do and avoid them) cannot possibly be arbitrary things, made by will without nature; because it is universally true, that things are what they are, not by will but by nature. As for example, things are white by whiteness, and black by blackness, triangular by triangularity, and round by rotundity, like by likeness, and equal by equality, that is, by such certain natures of their own. Neither can omnipotence itself (to speak with reverence) by mere will make a thing white or black without whiteness or blackness; that is, without such certain natures, whether we consider them as qualities in the objects without us according to the peripatetical philosophy, or as certain dispositions of parts in respect of magnitude, figure, site and motion, which beget those sensations or phantasms of white and black in us. Or, to instance in geometrical figures, omnipotence itself cannot by mere will make a body triangular, without having the nature and properties of a triangle in it; that is, without having three angles equal to two right ones, nor circular without the nature of a circle; that is, without having a circumference equidistant every where from the centre or middle point. Or lastly, to instance in things relative only; omnipotent will cannot make things like or equal to one another, without the natures of likeness and equality. The reason whereof is plain, because all these things imply a manifest contradiction; that things should be what they are not. And this is a truth fundamentally necessary to all knowledge, that contradictories cannot be true; for otherwise, nothing would be certainly true or false. Now things may as well be made white or black by mere will, without whiteness or blackness, equal and unequal, without equality and inequality, as morally good and evil, just and unjust, honest and dishonest, debita and illicita, by mere will, without any nature of goodness, justice, honesty. For though the will of God be the supreme efficient cause of all things, and can produce into being or existence, or reduce into nothing what it pleaseth, yet it is not the formal cause of any thing besides itself, as the schoolmen have determined, in these words: Deum ipsum non posse supplere locum causæ formalis; That God himself cannot supply the place of a formal cause.—And therefore it cannot supply the formal

cause, or nature of justice or injustice, honesty or dishonesty. Now all that we have hitherto said amounts to no more than this, that it is impossible any thing should be by will only, that is, without a nature or entity, or that the nature and essence of any thing should be arbitrary.

2. And since a thing cannot be made any thing by mere will without a being or nature, every thing must be necessarily and immutably determined by its own nature, and the nature of things be that which it is, and nothing else. For though the will and power of God have an absolute, infinite and unlimited command upon the existences of all created things to make them to be, or not to be at pleasure; yet when things exist, they are what they are, this or that, absolutely or relatively, not by will or arbitrary command, but by the necessity of their own nature. There is no such thing as an arbitrarious essence, mode or relation, that may be made indifferently any thing at pleasure: for an arbitrarious essence is a being without a nature, a contradiction, and therefore a nonentity. Wherefore the natures of justice and injustice cannot be arbitrarious things, that may be applicable by will indifferently to any actions or dispositions whatsoever. For the modes of all subsistent beings, and the relations of things to one another, are immutably and necessarily what they are, and not arbitrary, being not by will but by nature.

3. Now the necessary consequence of that which we have hitherto said is this, That it is so far from being true, that all moral good and evil, just and unjust are mere arbitrary and factitious things, that are created wholly by will; that (if we would speak properly) we must needs say that nothing is morally good or evil, just or unjust by mere will without nature, because every thing is what it is by nature, and not by will. For though it will be objected here, that when God, or civil powers command a thing to be done, that was not before debitum or illicitum, obligatory or unlawful, the thing willed or commanded doth forthwith become Δίον or debitum, obligatory, that which ought to be done by creatures and subjects respectively; in which the nature of moral good or evil is commonly conceived to consist. And therefore if all good and evil, just and unjust be not the creatures of mere will (as many assert) yet at least positive things must needs owe all their morality, their good and evil to mere will without nature: yet notwithstanding, if we well consider it, we shall find that even in positive commands themselves, mere will doth not make the thing commanded just or debitum, obligatory, or beget and create any obligation to obedience; but that it is natural justice or equity, which gives to one the right or authority of commanding, and begets in another duty and obligation to

obedience. Therefore it is observable, that laws and commands do not run thus, to will that this or that thing shall become justum or injustum, debitum or illicitum, just or unjust, obligatory, or unlawful; or that men shall be obliged or bound to obey; but only to require that something be done or not done, or otherwise to menace punishment to the transgressors thereof. For it was never heard of, that any one founded all his authority of commanding others, and others obligation or duty to obey his commands, in a law of his own making, that men should be required, obliged, or bound to obey him. Wherefore since the thing willed in all laws is not that men should be bound or obliged to obey; this thing cannot be the product of the mere will of the commander, but it must proceed from something else; namely, the right or authority of the commander, which is founded in natural justice and equity, and an antecedent obligation to obedience in the subjects; which things are not made by laws, but pre-supposed before all laws to make them valid: And if it should be imagined, that any one should make a positive law to require that others should be obliged, or bound to obey him, every one would think such a law ridiculous and absurd; for if they were obliged before, then this law would be in vain, and to no purpose; and if they were not before obliged, then they could not be obliged by any positive law, because they were not previously bound to obey such a person's commands: so that obligation to obey all positive laws is older than all laws, and previous or antecedent to them. Neither is it a thing that is arbitrarily made by will, or can be the object of command, but that which either is or is not by nature. And if this were not morally good and just in its own nature before any positive command of God, that God should be obeyed by his creatures, the bare will of God himself could not beget an obligation upon any to do what he willed and commanded, because the natures of things do not depend upon will, being not *Γιγνόμενα* but *ὄντα*, things that are arbitrarily made, but things that are. To conclude therefore, even in positive laws and commands it is not mere will that obligeth, but the natures of good and evil, just and unjust, really existing in the world.

4. Wherefore that common distinction betwixt things, *Φύσει καὶ θέσει*, things naturally and positively good and evil, or (as others express it) betwixt things that are therefore commanded because they are good and just, and things that are therefore good and just, because they are commanded, stands in need of a right explication, that we be not led into a mistake thereby, as if the obligation to do those thetical and positive things did arise wholly from will without nature: whereas it is not the mere will and pleasure of him that commandeth, that

obligeth to do positive things commanded, but the intellectual nature of him that is commanded. Wherefore the difference of these things lies wholly in this, that there are some things which the intellectual nature obligeth to per se, of itself, and directly, absolutely and perpetually, and these things are called φύσει, naturally good and evil; other things there are which the same intellectual nature obligeth to by accident only, and hypothetically, upon condition of some voluntary action either of our own or some other persons, by means whereof those things which were in their own nature indifferent, falling under something that is absolutely good or evil, and thereby acquiring a new relation to the intellectual Nature, do for the time become debita or illicita, such things as ought to be done or omitted, being made such not by will but by nature. As for example, to keep faith and perform covenants, is that which natural justice obligeth to absolutely; therefore ex hypothesi, upon the supposition, that any one maketh a promise, which is a voluntary act of his own, to do something which he was not before obliged to by natural justice, upon the intervention of this voluntary act of his own, that indifferent thing promised falling now under something absolutely good, and becoming the matter of promise and covenant, standeth for the present in a new relation to the rational nature of the promiser, and becometh for the time a thing which ought to be done by him, or which he is obliged to do. Not as if the mere will or words and breath of him that covenanteth had any power to change the moral natures of things, or any ethical virtue of obliging; but because natural justice and equity obligeth to keep faith and perform covenants. In like manner natural justice, that is, the rational or intellectual nature, obligeth not only to obey God, but also civil powers, that have lawful authority of commanding, and to observe political order amongst men; and therefore if God or civil powers command any thing to be done that is not unlawful in itself; upon the intervention of this voluntary act of theirs, those things that were before indifferent, become by accident for the time debita, obligatory, such things as ought to be done by us, not for their own sakes, but for the sake of that which natural justice absolutely obligeth to.

And these are the things that are commonly called θέσει, positively, good and evil, just or unjust, such as though they are adiaphorous or indifferent in themselves, yet natural justice obligeth to accidentally ex hypothesi, on supposition, of the voluntary action of some other person rightly qualified in commanding, whereby they fall into something absolutely good. Which things are not made Good or debita, due, by the mere will or pleasure of the commander, but by that natural justice

which gives him right and authority of commanding, and obligeth others to obey him; without which natural justice, neither covenants nor commands could possibly oblige any one. For the will of another doth no more oblige in commands, than our own will in promises and covenants. To conclude therefore, things called naturally good and debita, due, are such things as the Intellectual nature obliges to immediately, absolutely and perpetually, and upon no condition of any voluntary action that may be done or omitted intervening; but those things that are called positively good and debita, due, are such as natural justice or the intellectual nature obligeth to accidentally and hypothetically, upon condition of some voluntary act of another person invested with lawful authority in commanding.

And that it is not the mere will of the commander, that makes these positive things to oblige or become debita, due, but the Nature of things; appears evidently from hence, because it is not the volition of every one that obligeth, but of a person rightly qualified and invested with lawful authority; and because the liberty of commanding is circumscribed within certain bounds and limits, so that if any commander go beyond the sphere and bounds that nature sets him, which are indifferent things, his commands will not at all oblige.

5. But if we would speak yet more accurately and precisely, we might rather say, that no positive commands whatsoever do make any thing morally good and evil, just and unjust, which nature had not made such before. For indifferent things commanded, considered materially in themselves, remain still what they were before in their own nature, that is, indifferent, because (*Τὸ φύσει ἀκίνητον*, as Aristotle speaks) will cannot change nature. And those things that are *φύσει ἀδιάφορα*, by nature indifferent, must needs be as immutably so, as those things that are *φύσει δίκαια* or *ἄδικα*, *καλὰ* or *αἰσχρὰ*, by nature just or unjust, honest or shameful.—But all the moral goodness, justice and virtue that is exercised in obeying positive commands, and doing such things as are *θέσει* positive only, and to be done for no other cause but because they are commanded, or in respect to political order, consisteth not in the materiality of the actions themselves, but in that formality of yielding obedience to the commands of lawful authority in them. Just as when a man covenanteth or promiseth to do an indifferent thing which by natural justice he was not bound to do, the virtue of doing it consisteth not in the materiality of the action promised, but in the formality of keeping faith and performing covenants. Wherefore in positive commands, the will of the commander doth not create any new moral entity, but only diversely modifies and determines that general

duty or obligation of natural justice to obey lawful authority and keep oaths and covenants, as our own will in promising doth but produce several modifications of keeping faith. And therefore there are no new δίκαια, justa or debita, things just or due made by either of them, besides what was alway φύσει, by nature such, to keep our own promises, and obey the lawful commands of others.

6. We see then that it is so far from being true, that all moral good and evil, just and unjust (if they be any thing) are made by mere will and arbitrary commands (as many conceive) that it is not possible that any command of God or man should oblige otherwise than by virtue of that which is φύσει δίκαιον, naturally just. And though particular promises and commands be made by will, yet it is not will but nature that obligeth to the doing of things promised and commanded, or makes them debita, such things as ought to be done. For mere will cannot change the moral nature of actions, nor the nature of intellectual beings. And therefore if there were no natural justice, that is, if the rational or intellectual nature in itself were indetermined and unobliged to any thing, and so destitute of all morality, it were not possible that any thing should be made morally good or evil, debitum or illicitum, obligatory or unlawful, or that any moral obligation should be begotten by any will or command whatsoever.

CHAP. III.

1. But some there are that will still contend, that though it should be granted that moral good and evil, just and unjust do not depend upon any created will, yet notwithstanding they must needs depend upon the arbitrary will of God, because the natures and essences of all things, and consequently all verities and falsities, depend upon the same. For if the natures and essences of things should not depend upon the will of God, it would follow from hence, that something that was not God was independent upon God.

2. And this is plainly asserted by that ingenious philosopher Renatus Des Cartes, who in his answer to the sixth objector against his metaphysical meditations, writes thus: Repugnat Dei voluntatem non fuisse ab æterno indifferentem ad omnia quæ facta sunt aut unquam fient, quia nullum bonum vel malum, nullum credendum vel faciendum vel omittendum fingi potest, cujus idea in intellectu divino prius fuerit, quam ejus voluntas se determinarit ad efficiendum ut id tale esset. Ne-

que id loquor de prioritate temporis, sed ne quidem prius fuit ordine, vel natura, vel ratione ratiocinata ut vocant, ita scilicet ut ista boni idea impulerit Deum ad unum potius quam aliud eligendum. Nempe exempli causa, non ideo voluit creare mundum in tempore, quia vidit sic melius fore quam si creasset ab æterno, nec voluit tres angulos trianguli æquales esse duobus rectis, quia cognovit aliter fieri non posse, etc. Sed contra, quia voluit mundum creare in tempore, ideo sic melius est quam si creatus fuisset ab æterno; et quia voluit tres angules trianguli necessario equales esse duobus rectis, idirco jam hoc verum est, et fieri aliter non potest; atque ita de reliquis. Et ita summa indifferentia in Deo summum est ejus omnipotentiæ argumentum. It is a contradiction to say, that the will of God was not from eternity indifferent to all things which are or ever shall be done; because no good or evil, nothing to be believed or done or omitted, can be fixed upon, the idea whereof was in the divine intellect before that his will determined itself to effect that such a thing should be. Neither do I speak this concerning priority of time, but even there was nothing prior in order or by nature, or reason as they call it, so as that that idea of good inclined God to choose one thing rather than another. As for example sake, he would therefore create the world in time, because that he saw that it would be better so than if he had created it from eternity; neither willed he that the three angles of a triangle should be equal to two right angles, because he knew that it could not be otherwise. But on the contrary, because he would create the world in time, therefore it is better than if he had created it from eternity; and because he would that the three angles of a triangle should necessarily he equal to two right angles, therefore this is true and can be no otherwise; and so of other things. And thus the greatest indifference in God is the greatest argument of his Omnipotence.—

And again afterward, p. 162: Attendenti ad Dei immensitatem manifestum est, nihil omnino esse posse quod ab ipso non pendeat, non modo nihil subsistens, sed etiam nullum ordinem, nullam legem, nullamve rationem veri et boni. To him that considers the immensity of God it is manifest, that there can be nothing at all which doth not depend upon him, not only nothing subsisting, but also no order, no law, no reason of truth and goodness.—

And when he was again urged by the sixth objector, Nunquid Deus potuerit efficere ut nature Trianguli non fuerit? et qua ratione amabo potuisset ab æterno facere ut non fuisset verum bis quatuor esse octo? Could not God cause that the nature of a triangle should not be such? and how, I pray thee, could he from eternity cause that it should not

be true, that twice four are eight?—He confesseth ingenuously that those things were not intelligible to us; but yet notwithstanding they must be so, because Nihil in ullo genere entis esse potest, quod a Deo non pendeat. Nothing in any sort of being can be, which doth not depend upon God. Which doctrine of Cartesius is greedily swallowed down by some servile followers of his that have lately written De prima philosophia, of the old philosophy.

3. Perhaps some may make a question for all this, whether Cartesius were any more in earnest in this, than when he elsewhere goes about to defend the doctrine of transubstantiation by the principles of his new philosophy, because in his meditations upon the old philosophy (where it is probable he would set down the genuine sense of his own mind more undisguisedly, before he was assaulted by these objectors, and thereby forced to turn himself into several shapes) he affirmeth that the essences of things were eternal and immutable; but being afterward urged by Gassendus with this inconvenience, that then something would be eternal and immutable besides God, and so independent upon God, he doth in a manner unsay it again, and betakes himself to this pitiful evasion, Quemadmodum poetæ fingunt a jove quidem fata fuisse condita, sed postquam condita fuere, ipsum se iis fervandis obstrinxisse; ita ego non puto essentias rerum, mathematicasque ullas veritates quæ de ipsis cognosci possunt, esse independentes a Deo; sed puto nihilomius, quia Deus sic voluit, quia sic disposuit, ipsa esse immutabiles et æternas; As the poets feign that the fates were indeed fixed by Jupiter, but that when they were fixed, he had obliged himself to the preserving of them; so I do not think that the essences of things, and those mathematical truths which can be known of them, are independent on God; but I think nevertheless that because God so willed, and so ordered, therefore they are immutable and eternal;—which is plainly to make them in their own nature mutable. But whether Cartesius were in jest or earnest in this business, it matters not, for his bare authority ought to be no more valued by us than the authority of Aristotle and other ancient philosophers was by him, whom he so freely dissents from.

4. For though the names of things may be changed by any one at pleasure, as that a square may be called a circle, or a cube a sphere; yet that the nature of a square should not be necessarily what it is, but be arbitrarily convertible into the nature of a circle, and so the essences of a circle into the essence of a sphere, or that the self-same body, which is perfectly cubical, without any physical alteration made in it, should by this metaphysical way of transformation of essences, by mere will

and command be made spherical or cylindrical; this doth most plainly imply a contradiction, and the compossibility of contradictions destroys all knowledge and the definite natures, rationes, or notions of things. Nay, that which implies a contradiction is a non-entity, and therefore cannot be the object of divine power. And the reason is the same for all other things, as just and unjust; for every thing is what it is immutably by the necessity of its own nature; neither is it any derogation at all from the power of God to say, that he cannot make a thing to be that which it is not. Then there might be no such thing as knowledge in God himself. God might will that there should be no such thing as knowledge.

5. And as to the being or not being of particular essences, as that God might if he pleased, have willed that there should be no such thing as a triangle or circle, and therefore nothing demonstrable or knowable of either of them; which is likewise asserted by Cartesius, and those that make the essences of things dependent upon an arbitrary will in God. This is all one as if one should say, that God could have willed, if he had pleased, that neither his own power nor knowledge should be infinite.

6. Now it is certain, that if the natures and essences of all things, as to their being such or such, do depend upon a will of God that is essentially arbitrary, there can be no such thing as science or demonstration, nor the truth of any mathematical or metaphysical proposition be known any otherwise, than by some revelation of the will of God concerning it, and by a certain enthusiastic or fanatic faith and persuasion thereupon, that God would have such a thing to be true or false at such a time, or for so long. And so nothing would be true or false, φύσει but θέσει, naturally but positively only, all truth and science being mere arbitrarious things. Truth and falsehood would be only names. Neither would there be any more certainty in the knowledge of God himself, since it must wholly depend upon the mutability of a will in him essentially indifferent and undetermined; and if we would speak properly according to this hypothesis, God himself would not know or be wise by knowledge or by wisdom, but by will.

7. Wherefore as for that argument, that unless the essences of things and all verities and falsities depend upon the arbitrary will of God, there would be something that was not God, independent upon God; if it be well considered, it will prove a mere mormo or bugbear, and nothing so terrible and formidable as Cartesius seemed to think it. For there is no other genuine consequence deducible from this asser-

tion, that the essences and verities of things are independent upon the will of God, but that there is an eternal and immutable wisdom in the mind of God, and thence participated by created beings independent upon the will of God. Now the wisdom of God is as much God as the will of God; and whether of these two things in God, that is, will or wisdom, should depend upon the other, will be best determined from the several natures of them. For wisdom in itself hath the nature of a rule and measure, it being a most determinate and inflexible thing; but will being not only a blind and dark thing, as considered in itself, but also indefinite and indeterminate, hath therefore the nature of a thing regulable and measurable. Wherefore it is the perfection of will as such, to be guided and determined by wisdom and truth; but to make wisdom, knowledge and truth, to be arbitrarily determined by will, and to be regulated by such a *κανὼν μολύβδινος*, plumbean and flexible rule as that is, is quite to destroy the nature of it; for science or knowledge is *κατάληψις τοῦ ὄντος*, the comprehension of that which necessarily is, and there can be nothing more contradictious than truth or falsehood arbitrary. Now all the knowledge and wisdom that is in creatures, whether angels or men, is nothing else but a participation of that one eternal, immutable and uncreated wisdom of God, or several signatures of that one archetypal seal, or like so many multiplied reflections of one and the same face, made in several glasses, whereof some are clearer, some obscurer, some standing nearer, some further off.

8. Moreover, it was the opinion of the wisest of the philosophers, (as we shall show afterward) that there is also in the scale of being a nature of goodness superior to wisdom, which therefore measures and determines the wisdom of God, as his wisdom measures and determines his will, and which the ancient cabalists were wont to call כתר, a crown, as being the top or crown of the Deity, of which more afterward. Wherefore although some novelists make a contracted idea of God, consisting of nothing else but will and power; yet his nature is better expressed by some in this mystical or enigmatical representation of an infinite circle, whose inmost centre is simple goodness, the radii, rays and expanded area, plat thereof, all-comprehending and immutable wisdom, the exterior periphery or interminate circumference, omnipotent will or activity, by which every thing without God is brought forth into existence. Wherefore the will and power of God have no imperium ad intra, command inwardly either upon the wisdom and knowlege of God, or upon the ethical and moral disposition of his nature, which is his essential goodness; but the sphere of its activity is

extra Deum, without God, where it hath an absolute command upon the existences of things; and is always free, though not always indifferent, since it is its greatest perfection to be determined by infinite wisdom and infinite goodness. But this is to anticipate what according to the laws of method should follow afterward in another place.

BOOK II.

CHAPTER I.

1. Now the Demonstrative strength of our cause lying plainly in this, that it is not possible that any thing should be without a nature, and the natures or essences of all things being immutable, therefore upon supposition that there is any thing really just or unjust, debitum or illicitum, due or unlawful, there must of necessity be something so both naturally and immutably, which no law, decree, will nor custom can alter. There have not wanted some among the old philosophers, that rather than they would acknowledge any thing immutably just or unjust, would not stick to shake the very foundations of all things, and to deny that there was any immutable nature or essence of any thing, and by consequence any absolute certainty of truth or knowledge; maintaining this strange paradox, that both all being and knowledge was fantastical and relative only, and therefore that nothing was good or evil, just or unjust, true or false, white or black, absolutely and immutably, but relatively to every private person's humor or opinion.

2. The principal assertor of this extravagant opinion was Protagoras the Abderite, who, as Plato instructs us in his Theætetus, held, *οὐδὲν εἶναι ἓν αὐτὸ καθ᾽ αὑτὸ ἀλλὰ τινὶ ἀεὶ γίγνεσθαι· τὸ δ᾽ εἶναι πανταχόθεν ἐξαιρετέον·* That nothing was any thing in itself absolutely, but was always made so to something else, and essence or being was to be removed from every thing.—In which position of his there seems to be these two things asserted: First, that all things were in perpetual motion, and nothing had any esse, but fieri, being, but a possibility to be, which the said Protagoras thus expressed: *Ἐκ δὲ δὴ φορᾶς τε καὶ κινήσεως καὶ κράσεως πρὸς ἄλληλα γίγνεται, ἃ δὴ φαμὲν εἶναι οὔκ ὀρθῶς προσαγορεύοντες·* All things are made by motion and mixture of things together, and therefore are not rightly said to be; for nothing is, but every thing is always made.—Secondly, That nothing is made absolutely, but only relatively to something else. *Εἴτε τις εἶναί τι ὀνομάζει, τινὶ εἶναι, ἢ τινός, ἢ πρός τι, ῥητέον αὐτῷ, εἴτε γίγνεσθαι· αὐτὸ δὲ ἐφ᾽ αὑτοῦ τι ἢ ὂν ἢ γιγνόμενον, οὔτε αὐτῷ λεκτέον οὔτ᾽ ἄλλου λέγοντος ἀποδεκτέον·* If any one say that

any thing either is or is made, he must say that it is so to something, or in respect of some body, for we cannot affirm that any thing either is or is made absolutely in itself, but relatively to something else.

Now from hence proceeded those known aphorisms of his, recorded both in Plato and Aristotle, *Τὰ φαινόμενα ἑκάστῳ ταῦτα καὶ εἶναι τούτῳ ᾧ φαίνεται·* That those things which appear to every one, are to him to whom they appear.—And again, *Πᾶσα φαντασία ἐστὶν ἀληθής·* That every fancy or opinion of every body was true.—And again, *Πάντων χρημάτων μέτρον ἄνθρωπον εἶναι, τῶν μὲν ὄντων ὡς ἔστι, τῶν δὲ μὴ ὄντων ὡς οὐκ ἔστιν·* That man is the measure of all things whether existing or not existing.—Which sentence seemed so pretty and argute to him, that he placed it in the very front of his book, as Plato tells us; and indeed it compriseth in it all the singularity of his philosophy, the true meaning thereof being this; not only that man taken generally is the measure of all things, (which in some sense might be affirmed, that our humane faculties are the measure of all things unto us) but also that *πᾶς ἄνθρωπος*, every individual man is the measure of all being and truth respectively to himself; for so the following words in Plato explain it: *Ὀυκοῦν οὕτως, πως λέγεις ὡς οἷα μὲν ἕκαστα ἐμοὶ φαίνεται, τοιαῦτα μὲν ἐστιν ἐμοί· οἷα δὲ σοι, τοιαῦτα ἂν σοί· ἄνθρωπος δὲ σύ τε κἀγώ·* Your meaning (saith Socrates) is this, that as every thing appears to me, such it is to me; and as it appears to you, such it is to you, both of us being alike men.—Wherefore it is elsewhere expressed after this manner: *Μέτρον ἕκαστον ἡμῶν εἶναι τῶν τε ὄντων καὶ μή·* That every man is the measure of what is and is not, that is, to himself, and *Μέτρον εἶναι αὐτῷ ἕκαστον αὐτοῦ σοφίας·* That every man is the measure of his own wisdom to himself.—Sextus Empiricus gives a short account of this Protagorean philosophy in a few words thus: *Τίθησι τὰ φαινόμενα ἑκάστῳ, καὶ οὕτως εἰσάγει τὸ πρός τι·* He asserts that, which seems to every one, to be, and so makes all things relative.—Now this was an higher strain of madness than the Pyrrhonian skepticism, which was not so extravagant as to affirm, that all things were fantastical and relative only; but that we could not affirm what things absolutely were in their own nature, but only what they seemed to us.

3. But that all this was chiefly intended as a battery or assault against morality, and principally levelled by Protagoras against the absolute and immutable natures of good and evil, just and unjust, appeareth also from sundry passages of that learned dialogue called Theætetus. [1]*Λέγε τοίνυν πάλιν εἰ σοὶ ἀρέσκει τὸ μήτι εἶναι, ἀλλὰ γίγνεσθαι αἰεὶ*

[1] Ed. Serrani, p. 157.

ἀγαθὸν καὶ καλὸν· Tell me therefore, dost though in good earnest think that nothing is good or honest, but is always made so?—And afterwards Protagoras affirms: [1]Οἷά γ' ἂν ἑκάστῃ πόλει δίκαια καὶ καλὰ δοκῇ, ταῦτα καὶ εἶναι αὐτῇ, ἕως ἂν αὐτὰ νομίζῃ· That whatsoever things seem to be good and just to every city or commonwealth, the same are so to that city or commonwealth so long as they seem so.—Again, [2]Καλὰ μὲν καὶ αἰσχρὰ, δίκαια καὶ ἄδικα, καὶ ὅσια καὶ μὴ, οἷα ἂν ἑκάστη πόλις οἰηθεῖσα θῆται νόμιμα ἑαυτῇ, ταῦτα καὶ εἶναι τῇ ἀληθείᾳ ἑκάστῃ καὶ ἐν τούτοις μὲν οὐδὲν σοφώτερον οὔτε ἰδιώτην ἰδιώτου, οὔτε πόλιν πόλεως εἶναι· Whatsoever things any city thinketh doth decree to be honest or dishonest, just or unjust, holy or unholy, those things are really or truly such to that city; and in such things as these no one private person or city is wiser than another, because οὐκ ἔστι φύσει αὐτῶν οὐδὲν οὐσίαν ἑαυτου ἔχον· none of these things have any nature or essence of their own, being merely fantastical and relative.—Lastly, to name no more places, [3]Οὐκοῦν ἐνταῦθά που ἦμεν τοῦ λόγου ἐν ᾧ ἔφαμεν τοὺς τὴν φερομένην οὐσίαν λέγοντας, καὶ τὸ αἰεὶ δοκοῦν ἑκάστῳ, τοῦτο καὶ εἶναι τούτῳ ᾧ δοκεῖ, ἐν μὲν τοῖς ἄλλοις ἐθέλειν δὴ διϊσχυριζεσθαι, καὶ οὐκ ἥκιστα περὶ τὰ δίκαια ὡς παντὸς μᾶλλον, ἅ ἂν θῆται πόλις δόξαντα αὐτῇ, ταῦτα καὶ ἔστι δίκαια τιθεμένη ἕωσπερ ἂν κέηται· The thing that we were about to show was this, that they which made the natures and essences of all things, flowing and mutable, and which held that what seemed to every body, was that to whom it so seemed, as they do maintain this concerning all other things, so concerning nothing more than just and unjust, as being unquestionably true of these, that whatsoever any city thinks to be good and just, and decrees them such, these things are so to that city, so long as they are so decreed.—

CHAP. II.

1. Wherefore, since in order to the taking away of the immutable natures of good and evil, just and unjust, and the moral differences of human actions, there was so strange an attempt made by these philosophers to overthrow the absolute essences and truths of all things; let us in the next place consider what pretences, or grounds they could possibly have for maintaining so wild a paradox as this is.

First, therefore, it is evident from Plato's writings, that Protagoras laid his foundation in the Heraclitical philosophy, at that time in great

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[1] Ibid. p. 167. [2] Ibid. p. 172. [3] Ibid. p. 177.

vogue and request in the world, which did φερομένην οὐσίαν εἰσάγειν, as that philosopher writes, bring in a floating and moveable essence, and maintained οὐδὲν ἑστάναι, πάντα δὲ κινεῖσθαι· 'That nothing stood, but all things moved and flowed.—An opinion which most of the ancients were inclining to, as appears from the poets, who made πάντα ἔκγονα ῥοῆς τε καὶ κινήσεως, all things to be the offspring of flux and motion;—insomuch that Homer himself (as Plato observes) deriving the pedigree of the Gods, made the Ocean their father, and Tethys their mother. Ὠκεανόν τε θεῶν γένεσιν, καὶ μητέρα Τήθυν.

And there were not any philosophers of note, besides Parmenides and Melissus, that opposed it, who also run into another extreme; and therefore the former of these Plato facetiously calls τοὺς ῥέοντας, the flowing philosophers, the latter στασιώτας, the standers. Now the true meaning of this Heraclitical philosophy was plainly this; that there is no other being in the world besides individual body or matter, and no such thing as εἴδη, standing intelligible forms, that is, no intellectual being; which matter or corporeal being as it is liable to motion and mutation because of its divisibility, every part of it being separable from another; so by the mutation that we find in all corporeal things, we may reasonably conclude, that it is throughout perpetually moved and agitated by streams and subtle matter passing the pores of all bodies; whence it was that they affirmed οἷον ῥεύματα κινεῖσθαι τὰ πάντα, that all things flowed like a stream;—and that there was no stability either of essence or knowledge any where to be found. For that Cratylus and Heraclitus endeavored to destroy the certainty of all science from this principle, is evident in that they maintained that contradictories might be true concerning the same thing, and at the same time. And indeed if there were no other being in the world but individual matter, and all knowledge proceeded from the impresses of that matter, that being always agitated, it is not conceivable how there could be any stability of knowledge any more than of essence found in this rapid whirlpool of corporeal things; nay, nor how there should be any such thing as knowledge at all. Wherefore according to this Heraclitical philosophy, Protagoras in the first place concluded ὅτι ἐπιστήμη οὐκ ἄλλο τι ἐστὶν ἢ αἴσθησις· That knowledge is nothing else but sense.—For as Plato writes: Εἰς ταὐτὸν σύμπεπτωκε οἷον ῥεύματα κινεῖσθαι τὰ πάντα, καὶ αἴσθησιν ἐπιστήμην γίγνεσθαι· These two assertions come all to one, that all things flow like a stream, and that knowledge and sense are one and the self-same thing.

2. But Protagoras went further, and made a superstructure upon this Heraclitical philosophy out of the old Atomical or Phenician phi

losophy, which clearly asserted, that all those sensible qualities, as they are called, of heat and cold, light and colors, sounds, odors and sapours, formally considered, are not things really and absolutely existing without us, but only passions, sensations and phantasms in us, occasioned by certain local motions made upon the organs of sense from the objects without us, and so indeed but relative and fantastical things. And thus Protagoras made up his business complete from this mixture of the Heraclitical and atomical philosophy together; for taking it for granted according to Heraclitus's doctrine, that knowledge is nothing else but sense, and according to the Phenician or Atomical philosophy, that the sensible qualities are not things really and absolutely existing without us, but appearances or sensations in us, he concluded *πάντα τὰ νοητὰ καὶ αἰσθητά·* all sensible and intelligible things—not to be absolute essences, but things merely relative, fantastical and imaginary.

CHAP. III.

1. Now that this Atomical, Corpuscular or Mechanical philosophy, that solves all the phenomena of the corporeal world by those intelligible principles of magnitude, figure, site and motion, and thereby makes sensible things intelligible, banishing away those unintelligible corporeal forms and sensible qualities, was known to Protagoras, who lived not only before Plato and Aristotle, but also before Democritus himself, as Plutarch testifies, (though he abused it, in grounding so strange a paradox upon it) I shall make it undeniably evident from several testimonies out of Plato's Theætetus; for besides that passage afore-mentioned, [1] *Ἐκ δὲ δὴ φορῶς τε καὶ κινήσεως καὶ κράσεως πρὸς ἄλληλα γίγνεται πάντα·* That all things are made by local motion and mixture with one another,—and what follows after, [2] *Τὸ μὲν εἶναι δοκοῦν καὶ τὸ γίγνεσθαι κίνησις παρέχει·* That motion is that which makes every thing to seem to be, or to be generated,—he plainly describes the nature of colors according to this very hypothesis, [3] *ΣΩ. ὑπόλαβε τοίνυν ὦ ἄριστε οὐτωσὶ κατὰ τὰ ὄμματα πρῶτον. ὃ δὴ καλεῖς χρῶμα λευκὸν, μὴ εἶναι αὐτὸ ἕτερόν τι ἔξω τῶν σῶν ὀμμάτων, μηδ' ἐν τοῖς ὄμμασι· μηδέ τιν' αὐτῷ χώραν ἀποτάξῃς. ἤδη γὰρ ἂν μένοι, καὶ οὐκ ἂν ἐν τῇ γενέσει γίνοιτο. Θεαιτ. Ἀλλὰ πῶς; Σω. Ἑπώμεθα τῷ ἄρτι λόγῳ, μηδέν αὐτὸ καθ' αὑτὸ ἓν ὂν τιθέντες, καὶ ἡμῖν οὕτω μέλαντε καὶ*

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[1] Plato's Theætetus, p. 152. [2] Ibid. p. 153. [3] Ibid. p. 158.

λευκὸν καὶ ὅτιοῦν ἄλλο χρῶμα ἐκ τῆς προσβολῆς τῶν ὀμμάτων πρὸς τὴν προσηκουσαν φορὰν φανεῖται γεγεννημένον. καὶ ὃ δὴ ἕκαστοι εἶναι φαμὲν χρῶμα, οὔτε τὸ ὁροσβάλλον, οὔτε τὸ προσβαλλόμενόν ἐστι, ἀλλὰ μεταξύ τι ἑκάστῳ ἴδιον γεγονός· The sense wherefore is this, let us begin first with the eyes or sight: that which is called a white colour, is not any real quality existing either without the eyes or in the eyes; for then it would not consist only in motion and generation: but taking it for granted that no sensible thing is such absolutely in itself, we must say that a white and black colour, and every other colour is generated by certain motions made and impressed upon the eye, and every colour is neither that which makes the impression, nor that which receiveth it; (that is, neither any thing in the eye nor in the object absolutely) but a certain middle thing between them both, which can be nothing else but a passion or sensation in us.—Elsewhere in that dialogue he proves this assertion, that colours and the like sensible things are no real and absolute qualities either in the sentient or in the object, because the same object seems to have different qualities to different persons, as *Πνέοντος ἀνέμου τοῦ ἀυτοῦ ὁ μὲν ἡμῶν ῥιγοῖ, ὁ δὶ οὔ. καὶ ὁ μὲν ᾐρέμα, ὁ δὲ σφόδρα·* The same wind blowing seems cold to one and warm to another; and the same wine which to one in health seems sweet, will to the same person appear bitter and distasteful if he be sick.—Whence he concluded that heat and cold, sweet and bitter, were not things really and absolutely existing in the objects without, but relative things, being passions or sensations that may be diversified by the different tempers and complexions of the body.

2. Afterward, p. 156, we have the sum of this atomical or mechanical philosophy, more copiously and fully set down after this manner, *Ἀρχὴ δὲ ἐξ ἧς καὶ ἃ νῦν δὴ ἐλέγομεν πάντα ἤρτηται, ἥδε αὐτῶν. Ὡς τὸ πᾶν κίνησις ἦν, καὶ ἄλλο παρὰ τοῦτο οὐδέν. Ἐστὶ δε κινήσεως δύο εἴδη, πλήθει μὲ ἄπειρον ἑκάτερον, δύναμιν δὲ τὸ μὲ ποιεῖν ἔχον, τὸ δὲ πάσχειν. Ἐκ δὲ τῆς τούτων ὁμιλίας τε καὶ τρίψεως πρὸς ἄλληλα, γίγνεται ἔκγονα, πλήθει μὲ ἄπειρα, δίδυμα δέ. τὸ μὲν αἰσθητὸν, τὸ δὲ αἴσθησις, ἀεὶ συνεκπίπτουσα καὶ γεννωμένη μετὰ τοῦ αἰσθητοῦ. Αἱ μὲν οὖν αἰσθήσεις τὰ τοιάδε ἡμῖν ἔχουσιν ὀνόματα, ὄψεις τε καὶ ἀκοαί καὶ ὀσφρήσεις, καὶ ψυξεις τε καὶ κάυσεις, καὶ ἡδοναί γε δὲ καὶ λυπαὶ καὶ ἐπιθυμίαι καὶ φόβοι κεκλημεναί. Καὶ ἄλλαι ἀπέραντοι μὲ αἱ ἀνώνυμαι, παμπληθεῖς δὲ αἱ ὠνομασμέναι. Τὸ δὲ ἂυ αἰσθητὸν γένος τούτων ἑκάσταις ὁμόγονον. Ὄψεσι μὲν παντοδαπᾶις χρώματα παντοδαπά· ἀκοαῖς δὲ ὡσαύτως φωναὶ, καὶ ταῖς ἄλλαις αἰσθήσεσι τὰ ἄλλα αἰσθητὰ ξυγγενῆ γιγνόμενα.——ἐν φορᾷ αὐτῶν ἡ κίνησις πέφυκεν. Ἐπειδὰν οὖν ὄμμα καὶ ἄλλό τι τῶν τούτῳ συμμέτρων πλεσιάσαν γεννήσῃ τὴν λευκότητά τε καὶ αἴσθησιν αὐτῇ ξύμφυτον, ἃ οὐκ ἂν ποτὲ ἐγένετο, ἑκατέρου ἐκείνων πρὸς*

ἄλλο ἐλθόντος, τότε δὴ μεταξὺ φερομένων [τῆς μὲν ὄψεως πρὸς τῶν ὀφθαλμῶν, τῆς δὲ λευκότητος πρὸς τοῦ συναποτίκτοντος τὸ χρῶμα] ὁ μὲν ὀφθαλμὸς ἄρα ὄψεως ἔμπλεως ἐγένετο, καὶ ὁρᾷ δὴ τότε, καὶ ἐγενετο οὔτι ὄψις, ἀλλὰ ὀφθαλμὸς ὁρῶν. τὸ δὲ συγγεννῆσαν τὸ χρῶμα, λευκότητος περιεπλήσθη, καὶ ἐγενετο οὐ λευκότης αὖ, ἀλλὰ λευκὸν εἴτε ξύλον εἴτε λίθος εἴτε ὁτιοῦν συνέβη χρῶμα χρωσθῆναι τῷ τοιούτῳ χρώματι. Καὶ τἄλλα δὴ οὕτω σκληρὸν καὶ θερμόν, καὶ πάντα τὸν αὐτὸν τρόπον ὑποληπτέον, αὐτὸ μὲν καθ' αὑτὸ μηδὲν εἶναι, ὃ δὴ καὶ τότε ἐλέγομεν, ἐν δὲ τῇ προς ἄλληλα ὁμιλίᾳ πάντα γίγνεσθαι καὶ παντοῖα ἀπὸ τῆς κινήσεως· The beginning upon which all things depend is this; that the whole world is motion, and nothing else besides. Now of motion there are two kinds, each of which containeth innumerable branches under it; but the power of one is action, of the other, passion. From the mutual congress and contrition of both which together, are begotten innumerable offsprings, which may all be reduced to these two general heads, whereof the one the sensible, the other sense, which is always joined together with the sensible. The senses have such names as these, sight, hearing, tasting, touching, pleasures, pains, desires, fears, and others innumerable without names, but many that have names. The sensible kind doth answer and correspond to every one of these; to the sight all manner of colours, to the hearing sounds, and to the other senses other sensibles, that are of kin to them.—When therefore the eye, and some other thing analogous to it, meet together, they beget whiteness, and a certain sense proportionable thereunto, neither of which would have been made, if either of these had not met with the other. Then these things being carried respectively, sight to the eyes, and whiteness to the object, which did actively beget it, the eye becomes full of sight, and sees, and is not made sight in the abstract, but an eye seeing; and that which did congenerate the colour, is fitted with whiteness, and is made, not whiteness in the abstract, but a thing white, whether wood or stone. The same is to be conceived of all other sensible things, as hard and hot, and the like, that nothing is by itself absolutely any of these things, but they are all made from a mutual congress of the outward object and the sense, by means of motion.—

3. Here we see it plainly asserted, that the whole world is made by nothing else but the motion of particles, by means of which all things are generated and corrupted; neither did Protagoras acknowledge any other motion but local, as is plainly intimated: and that all these sensible qualities which we take notice of by the several senses, as colours, sounds, sapours, odours, and the like, are not things really existing without us, but passions or sensations in us, caused by several local motions upon the organs of sense. Which, if that be not sufficient that I have

already alleged, is yet more plainly expressed after this manner, p. 182: *Μέμνησαι γὰρ ὅτι οὕτως ἐλέγομεν, ἓν μηδὲν αὐτὸ καθ' αὑτὸ εἶναι, μηδ' αὖ τὸ ποιοῦν ἢ πάσχον, ἀλλ' ἐξ ἀμφοτέρων πρὸς ἄλληλα συγγιγνομένων ταῖς αἰσθήσεσι, καὶ τὰ αἰσθητὰ ἀποτικτόντων, τὰ μὲν ποία ἄττα γίγνεσθαι, τὰ δὲ αἰσθανόμενα·* Nothing is absolutely any one thing by itself, neither the agent nor the patient, but from both of these meeting together, are generated at once both the senses and the sensible things.—

4. These passages which I have cited are so clear and evident, that they cannot possibly be capable of any other sense than what I have expressed; and therefore those two Latin interpreters, Ficinus and Serranus, that lived before the restitution of this mechanical philosophy, and therefore understood it not, yet expounded them after the same manner. The first thus: Color neque oculorum aspectus est, neque corporum motus, sed ex aspectu motuque medium quiddam resultans: id est, talis circa oculos passio. Colour is neither the sight of the eyes, nor the motion of bodies, but a certain middle thing resulting from the sight and motion, that is, such a passion about the eyes.—The other in this manner: Ex varia aspicientis *διαθέσει*, variaque adeo intermedii sensilis schesi, colores varios et videri et fieri, ita tamen ut omnia sint *φαντασικά*, nec nisi in animo subsistant, vario autem motus congressu varientur; quod de omnibus sensibus constituendum est. That from the different disposition of the beholder, and so the different affection of the intermediate sensible organ, the various colours are both made and seen, but so as that they are all phantastical, nor have any subsistence but in the mind, are varied by the different congress of motion, which is to be concluded concerning all the senses.—Only Protagoras, in order to his skeptical design, made these sensible things not only relative to animals in general, but also to individuals, because it is impossible to demonstrate, as he urges, that all brute beasts, nay, that any two men have the very same phantasms or ideas of red or green, these being idiopathies, and because experience shows, that not only the gratefulness and ungratefulness of tastes and smells, but also that heat and cold are relative to individuals.

CHAP. IV.

1. Wherefore we have made it evident, that that very mechanical or atomical philosophy, that hath been lately restored by Cartesius and Gassendus, as to the main substance of it, was not only elder than

Epicurus, but also than Plato, and Aristotle, nay, than Democritus and Leucippus also, the commonly reputed fathers of it. And therefore we have no reason to discredit the report of Posidonius the stoic, who as Strabo tells us, affirmed this atomical philosophy to have been ancienter than the times of the Trojan war, and first to have been brought into Greece out of Phenicia. [1] If we may believe Posidonius the stoic, the doctrine of Atoms is ancienter than the times of the Trojan war, and was first invented and delivered by one Moschus a Sidonian, or rather a Phenician, as *Ἐι δεῖ πιστεῦσαι τῷ Ποσιδονίῳ, τὸ περὶ τῶν ἀτόμων δόγμα παλαιόν ἐστίν, ἀνδρὸς Σιδονίου Μόσχου πρὸ τῶν Τροϊκῶν χρόνων γεγονότος·* Sextus Empiricus cites the testimony of Posidonius. [2] Democritus and Epicurus invented the doctrine of atoms, unless we make that physiology to be ancienter, and derive it, as Posidonius the stoic doth, from one Moschus, a Phenician. *Δημόκριτος δὲ καὶ Ἐπίκουρος ἀτόμους, εἰ μήτι ἀρχαιοτέραν ταύτην θητέον τὴν δόξαν, καὶ ὡς ἔλεγεν ὁ Στωϊκὸς Ποσειδόνιος, ἀπὸ Μόσχου τινος ἀνδρὸς φοίνικος καταγομένην·* And since it is certain from what we have showed, that neither Epicurus nor yet Democritus were the first inventors of this physiology, this testimony of Posidonius the stoic ought in reason to be admitted by us.—

2. Now what can be more probable than that this Moschus the Phenician, that Posidonius speaks of, is the very same person with that Moschus the physiologer, that Jamblichus mentions in the life of Pythagoras, where he affirms, that Pythagoras living some time at Sidon in Phenicia, conversed with the Prophets that were the successors of Mochus the physiologer, and was instructed by them. *Τοῖς τε Μώχου τοῦ φυσιολόγου προφήταις ἀπογόνοις καὶ τοῖς ἄλλοις καί φοινικικοῖς ἱεροφάνταις·* He conversed with the prophets that were the successors of Mochus and other Phenician priests. And what can be more certain than that both Mochus and Moschus, the Phenician and philosopher, was no other than Moses the Jewish lawgiver, as Arcerius rightly guesses, *Μόσχου* legendum videtur, nisi quis *Μώχου* vel *Μωσέως* legere malit, It seems that it ought to be read Moschus, unless any had rather read it Mochus or Moses.—Wherefore according to the ancient tradition, Moschus or Moses the Phenician being the first author of the atomical philosophy, it ought to be called neither Epicurean nor Democritical, but Moschical or Mosaical.

3. It must be acknowledged, that neither of these two famous and renowned philosophers, Plato and Aristotle, had the good hap to be rightly and thoroughly instructed in this ancient Phenician and Moschi-

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[1] Lib. 16. edit. Casaub. p. 757. [2] Advers. Mathemat. p. 367.

cal or Mosaical philosophy; Protagoras so much abusing it to skepticism, and the taking away of the natural discrimination of good and evil, might probably beget a prejudice in Plato against it, though he doth not confute the physiological part of it in all his Theætetus, where good occasion was offered him; And yet in his Timæus he hath a little smattering of it, where he endeavors to resolve the differences of the four elements, fire, air, water, earth, into the different geometrical figures of their insensible parts, making the small particles of the earth to be cubical, by reason of their solidity and immobility, but of the fire, pyramidal.[1] *Τὸ ἔχον ὀλιγίστας βάσεις εὐκινητότατον ἀνάγκη πεφυκέναι, τμητικώτατόν τε ὀξύτατον ὂν πάντη πάντων·* It is reasonable that the figure which hath the smallest basis, should be attributed to that body which is most moving, cutting and piercing.—And that he doth not mean mystically in this, but physically, appears from his own explication of it concerning the insensible parts,[2] *Πάντα οὖν δεῖ ταῦτα διανοεῖσθαι σμικρὰ οὕτως ὡς καθ' ἓν ἕκαστον μὲν τοῦ γένους ἑκάστου διὰ σμικρότητα οὐδὲν ὁρώμενον ὑφ' ἡμῶν, συναθροισθέντων δὲ πολλῶν τοὺς ὄγκους αὐτῶν ὁρᾶσθαι·* These cubes and pyramids in the earth and the fire can only be perceived by the mind and understanding, since the single particles alone are not sensible, but only the aggregation of many of them together.

4. But Aristotle plainly rejects it. Jacobus Carpentarius, in his notes upon Alcinous, treating of the nature of universals, writes thus. Quidam universalia non omnino quidem tollunt, sed ea tantum esse volunt quando intelliguntur, nihil vero haberi in natura quod mentis notioni respondeat: quod mihi sane perinde est ac si dicerent colores nihil actu esse, sed tales effici quando reipsa videntur. Quæ etiam opinio suos habuit assertores, sed ab Aristotele est damnata. Some do not altogether deny universals, but will have it that they only are when they are understood, but that there is nothing in nature which answers to the notion of the mind. Which to me indeed is the same thing as if they should say that colours are not in their nature actually any thing, but are made such when they are in very deed seen. Which opinion also hath had its assertors, but is condemned by Aristotle.—This opinion, that colours are not actually existent according to those very ideas that we have of them before vision, is the arcanum, mystery of the old Atomical or Mosaical philosophy, which Carpentarius understood not; which makes them not qualities absolutely existing without us, but passions and sensations in us. And indeed this philosophy is condemned by Aristotle, in his third book de anima, of the soul, c. ii.

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[1] Pag. 55. ser. edit. [2] Ibid. page 56.

and that as the received doctrine of the ancient physiologists before his time. *Οἱ πρότεροι φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐδὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν ἄνευ ὄψεως, οὔδε Χυμὸν ἄνευ γεύσεως·* The former physiologists, saith he, were (generally) mistaken in this, in that they thought blackness and whiteness were no absolute qualities without the sight, nor sweet and sour without taste.—Again, he endeavors to confute the same philosophy which resolves those sensible qualities into figures, site and motion of particles; not only attributing it to Democritus, but also making it the most generally received physiology before his time. *Δημόκριτος καὶ οἱ πλεῖστοι τῶν φυσιολόγων ἀτοπώτατόν τι ποιοῦσι· πάντα γὰρ τὰ αἰσθητὰ ἁπτὰ ποιοῦσι. Καί τοι εἰ καὶ τοῦτο οὕτως ἔχει, δῆλον ὅτι καὶ τῶν ἄλλων αἰσθήσεων ἑκάστη ἁφή τις ἔστι· τοῦτο δὲ ὅτι ἔστι ἀδύνατον, οὐ χαλεπὸν συνιδεῖν. Ἔτι δὲ τοῖς κοινοῖς τῶν αἰσθήσεων πασῶν χρῶνται ὡς ἰδίοις. Μέγεθος γὰρ καὶ σχῆμα, καὶ τὸ τραχὺ καὶ τὸ λεῖον, ἔτι δὲ τὸ ὀξὺ καὶ τὸ ἀμβλὺ τὸ ἐν τοῖς ὄγκοις κοινὰ τῶν αἰσθήσεων ἐστί, εἰ δὲ μὴ πασῶν, ἀλλὰ ὄψεώς γε καὶ ἁφῆς. οἱ δὲ τὰ ἴδια ἐνταῦθα ἀνάγουσιν ὥσπερ Δημόκριτος. Τὸ γὰρ λευκὸν καὶ τὸ μέλαν, τὸ μὲν τραχὺ φησὶν εἶναι τὸ δὲ λεῖον. Εἰς δὲ τὰ σχήματα ἀνάγει τοὺς Χυμούς, καίτοι ἢ οὐδημιᾶς ἢ μᾶλλον τῆς ὄψεως τὰ κοινὰ γνωρίζειν·* Democritus and most of the physiologers commit a great absurdity in this, in that they make all sense to be touch; which is a thing at first sight plainly impossible. Moreover, they do not distinguish betwixt the objects common to all the senses, and those which are proper and peculiar to the several senses apart. For magnitude and figure, roughness and smoothness, sharpness and bluntness, which belong to bulk, are common to all the senses; or if not to all, yet to sight and touch. Whereas our sense is deceived concerning these common objects, but it is never deceived concerning the proper objects of the several senses, as the sight is not deceived about colours, nor the hearing about sounds.—But most of the ancient physiologists refer these proper objects to the common sensilia; as Democritus, who, as for white and black, makes one of them to consist in scabrities, roughness and ruggedness, the other in smoothness and evenness of parts. He also reduceth sapours to figures, though it belong chiefly to sight to take cognizance of figures and magnitude, and the like: whereas according to this philosophy, the sense of touch would be the most critical of them. Aristotle there concludes this discourse, with two general arguments against that philosophy (that made the sensible qualities to be properly sensations in us, and nothing else in the objects without us but magnitude, figure, site of parts and motion) in this manner, *Ἔτι τὰ μὲν αἰσθητὰ πάντα ἔχει ἐναντίωσιν, οἷον ἐν χρώματι τῷ μέλανι τὸ λευκὸν, καὶ ἐν χυμοῖς τὸ γλυκὺ τῷ πικρῷ, σχῆμα δὲ σχήματι οὐ δοκεῖ εἶναι ἐναντίον. τίνι γὰρ τῶν πολυγώνων τὸ περι-*

φερὲς ἐναντίον; Ἔτι ἀπείρων ὄντων τῶν σχημάτων, ἀναγκαῖον καὶ τοὺς χυμοὺς εἶναι ἀπείρους· That there is contrariety in qualities, but not in figures; and that the variety of figures being infinite, tastes, colours, and the rest would be so likewise.—Which arguments, though they be handsome and ingenious (that is, Aristotelical) to prove that there are such entities as qualities visible, tangible, tastable, and the like, really existing in the objects without us; yet as they will not counterbalance the weight of those other arguments that militate on the contrary side, so they will without any difficulty be answered by the assertors of this Novantique philosophy.

5. But after Plato's and Aristotle's time, this old physiology was again revived by Epicurus, but so blended with immorality and impiety, as that it soon sunk again, there being nothing left of all those voluminous treatises of Epicurus concerning it, saving what is preserved in Diogenes Laertius, nor no other system thereof transmitted to posterity but what is comprised in the poem of Lucretius Carus. So that the world was generally seized with a deep and profound oblivion of this physiology, there being only some obscure footsteps and dark intimations of it now and then found in the writings of some learned authors. As when Sextus tells us that some of the stoics held, Τὰ αἰσθητὰ εἶναι πρὸς τί· that sensitive things were relative to animals, and depended upon our sensation;—and Τὰ πάθη μόνα καταλαμβάνεσθαι· That not the things themselves were comprehended by sense, but only our passions from them:—And when the Pyrrhonian skeptics themselves affirmed, πάντα εἶναι πρὸς τί, τουτέστι πρὸς τὸ κρίνον, ὅτι πρὸς τόδε τὸ ζῶον καὶ τόνδε τὸν ἄνθρωπον, καὶ τήνδε τὴν αἴσθησιν ἕκαστον φαίνεται· That all things are relative, that is, to that which judges of them, and every thing appears to be according to sense.—

And when Plotinus makes a doubt whether sensible things did really exist in the objects without us, or were only passions within us,[1] Ἐπεὶ καὶ τὰ ἐπὶ τῆς αἰσθήσεως, ἃ δὲ δοκεῖ πίστιν ἔχειν ἐναργεστάτην, ἀπιστεῖται μήποτε οὐκ ἐν τοῖς ὑποκρινομένοις, ἀλλ' ἐν τοῖς πάθεσιν ἔχῃ τὴν δοκοῦσαν ὑπόστασιν, καὶ νοῦ δεῖ ἢ διανόιας τῶν κρινόντων· It may be well doubted concerning sensible things themselves, that we seem to have the greatest assurance of, whether they really exist in the objects without us, or whether they be passions in us.—

6. But in this last age it hath been so successfully restored by the writings of some learned authors, and the truth thereof so convincingly evinced by many other experiments besides that of the glassy prism

[1] Enn. 5. lib. 5.

and rainbow, that there is little doubt left concerning it. And indeed unless this philosophy be acknowledged to be true, we must of necessity affirm, that the sensible and corporeal world is altogether unintelligible. For as Timæus Locrus long ago observed, that τὰ αἰσθητά, sensible things could not be apprehended any otherwise than αἰσθήσει καὶ νόθῳ λογισμῷ· by sense and a certain kind of spurious reason, so it is most certainly true that we cannot possibly have any clear and intelligible ideas of heat and cold, light and colors, as such qualities really existing in the objects of sense without us, but as passions and sensations in ourselves we may. Wherefore unless we will assert that these lower sensible things are ἀκατάληπτα, utterly incomprehensible to our understanding, whilst it is able clearly to comprehend things of a higher nature, we must conclude this old Atomical, Moschical or Mosaical philosophy to be true.

CHAP. V.

1. But though this old Atomical philosophy be most solidly and substantially true, the paradoxes that Protagoras and others endeavored to ground upon it, are not only ridiculously absurd and contradictious in themselves, but also altogether inconsequent from the same.

For as for those assertions, that whatsoever seems is, and that every fancy is true; though they seem ridiculously absurd, yet those two learned philosophers Plato and Aristotle vouchsafe them a serious confutation. Plato from hence, in his Theætetus, because that the fancies of them that dream would be as true and real as the sensations of those that are awake; and that all men would be alike wise, and the opinions of the most illiterate idiots in geometry as true as any geometrical theorems, and all predictions of future things alike true. And that in the actions of human life, it would be indifferent what any man did in order to any end, and so all deliberation and consultation cease.

But Aristotle, in his Metaphysics, with some mixture of facetiousness also writes after this manner: Τοῖς ὑπὸ τὴν ὄψιν ὑποβάλλουσι τὸν δάκτυλον καὶ ποιοῦσιν ἐκ τοῦ ἑνὸς φαίνεσθαι δύο, δύο εἶναι διὰ τὸ φαίνεσθαι ταῦτα, καὶ πάλιν ἕν· τοῖς γὰρ μὴ κινοῦσι τὴν ὄψιν ἓν φαίνεται τὸ ἕν· To those that put their finger under their sight or between their eyes, it will be both two and one.—But Sextus Empiricus bestows more subtilty upon it than either of them; Εἰ πᾶσα φαντασία ἐστὶν ἀληθής, καὶ τὸ μὴ πᾶσαν φαντασίαν εἶναι ἀληθῆ, κατὰ φαντασίαν ὑφιστάμενον ἔσται ἀληθές·

καὶ οὕτω τὸ πᾶσαν φαντασίαν εἶναι ἀληθῆ γενήσεται ψεῦδος· If every fancy be true, then when one fancies that every fancy is not true, that must be true also, and so then this proposition that every fancy is true will be false.—

2. Whereas the meaning of these assertions, that whatsoever seems is, and every fancy is true, was no other than this, that nothing was absolutely true at all, but that all truth and knowledge were but seeming, fantastical and relative things. And because one seeming or appearance is as true as another, therefore they were all equally true, that is to say, none of them true at all. This Aristotle elsewhere rightly apprehended, Ὁ λέγων ἅπαντα τὰ φαινόμενα εἶναι ἀληθῆ, ἅπαντα ποιεῖ τὰ ὄντα πρός τι· He that saith that all things that appear are true, makes all beings to be relative.

But if nothing be absolutely true, but only relatively to him that thinks so, then this very opinion of Protagoras, that nothing was absolutely true, and that man was the measure of all things, was not itself absolutely true, but only seemingly and relatively to Protagoras: Whereas this is asserted for an absolute truth by him, that nothing is absolutely true.

And what a ridiculous folly was this in one that would be accounted a philosopher, to take a great deal of pains in writing a large volume, and to endeavor industriously to convince the world, that nothing was absolutely, but only relatively and fantastically true. Since it must needs follow from thence, that this very thing itself was not absolutely true, but only relatively to those that thought so; and the contrary altogether as true to those that thought otherwise. For it would no more concern the world to know that this was relatively and fantastically true to Protagoras that nothing was absolutely true, than to know what Protagoras dreamt of the last night. For since according to him Αὐτὸς τὰ αὑτοῦ ἕκαστος μόνα δοξάζει· that every man does but think his own truths, it cannot concern any man to know another's opinions any more than his dreams.—And therefore Protagoras had done more wisely if he had spared his pains, and kept those private relative truths of his own, that is, his dream or imagination wholly to himself.

But by his industrious endeavoring to convince the world of this, that nothing was absolutely true, but only relatively, he plainly confuted his own doctrine, in asserting that this was absolutely true, that nothing was absolutely true, which is a manifest contradiction. There need be the less pains taken in confuting skepticism and fanaticism, since it always so easily confutes itself.

3. For if nothing be absolutely true, then not so much as this could

be absolutely true, that it seemed to Protagoras that nothing was absolutely true. And it could only seem to seem to be true. Nay, it could not be absolutely true, that Protagoras, to whom all truth seemed to be relative had any real existence, much less that there are any objects without, from whence the impressions or motions are made upon our senses; or that there is any such thing as magnitude, motion, figure and site of parts, or *Τὴν ὕλην ῥευστὴν εἶναι, καὶ τοὺς λόγους τῶν φαινομένων πάντων ἐν αὐτῇ ὑποκεῖσθαι·* that matter is floating, and that the reasons of all appearances are founded therein; which things, as Plato and Sextus tell us, were dogmatically affirmed by Protagoras.

CHAP. VI.

1. Again, as this skepticism or fantasticism of Protagoras is most absurd and contradictious in itself, so there is not any foundation for it at all in the old Atomical philosophy, but contrariwise, nothing doth more effectually and demonstratively overthrow both these assertions that knowledge is sense, and that all truth and knowledge is but fantastical and relative, than this Atomical philosophy doth.

For first, since no sense can judge of itself, or its own appearances, much less make any judgment of the appearances belonging to another sense for *Ἃ δὶ ἑτέρας δυνάμεως αἰσθάνῃ, ἀδύνατον δὶ ἄλλης τούτων αἰσθέσθαι, οἷον ἃ δὶ ἀκοῆς, δὶ ὄψεως· ἢ ἃ δὶ ὄψεως, δὶ ἀκοῆς·* those things which are perceived by one of our powers, it is impossible to perceive them by another, as the objects of hearing by sight, or the objects of sight by hearing, and the like.

The sight cannot judge of sounds which belong to the hearing, nor the hearing of light and colors; wherefore that which judges of all the senses and their several objects, cannot be itself any sense, but something of a superior nature.

2. Moreover, that which judges that the appearances of all the senses have something fantastical in them, cannot possibly be itself fantastical, but it must be something which hath a power of judging what really and absolutely is or is not. This being not a relative, but an absolute truth, that sensible appearances have something fantastical in them. Neither could Protagoras ever have arrived to the knowledge of this truth, if he had not had some faculty in him superior to sense, that judgeth of what is and is not absolutely.

Now this same rational faculty, that discovers, according to the

Atomical philosophy, that there is something in our sensations that is merely fantastical and relative, doth assure us also not only that there are absolutely and really such passions, affections and seemings in us, but that they that do sentire, perceive, have an absolute and real entity. For though it should be supposed that our senses did deceive us in all their representations, and that there were no sun, no moon, no earth, that we had no hands, no feet, no body, as by sense we seem to have, yet reason tells us that of necessity that must be something, to whom these things seem to be, because nothing can seem to that that is not; this being an absolute and immutable truth, Nihili nullam esse neque actionem neque passionem: That of nothing there is not any either action or passion whatsoever;—but also that when we are awake and use our senses, there are corporeal objects really existing without us, which make those sensible impressions upon us, and that those corporeal objects have absolutely and really as many correspondent varieties in them in respect of magnitude, figure, site and motion, as there are varieties of sensible ideas and phantasms that we take notice of by them. For Protagoras himself, according to the old Atomical philosophy, acknowledges that local motion, magnitude, figure and site of parts, absolutely are in corporeal things themselves; only that color and such other things are relative. Therefore all being and truth according to Protagoras himself, is not fantastical and relative, but there is some absolute.

3. Wherefore the proper and genuine result of this old Atomical philosophy, which is the triumph of reason over sense, is nothing else but this, that sense alone is not the criterion or judge of what does really and absolutely exist without us, but that there is a higher and superior intellectual faculty in us that judges of our senses, which discovers what is fallacious and fantastical in them, and pronounces what absolutely is and is not. And Democritus, who did more thoroughly and perfectly understand this Atomical philosophy than Protagoras, makes this to be the proper result and consequence of it, the invalidating the judgment of sense concerning bodies themselves, and the asserting a higher faculty of reason in us to determine what is absolutely true and false; which is worth the noting. For so Sextus the philosopher writes concerning Democritus: *Δημόκριτος δὲ ἀναιρεῖ τὰ φαινόμενα ταῖς αἰσθήσεσιν, καὶ τούτων λέγει μηδὲν φαίνεσθαι κατὰ ἀλήθειαν, ἀλλὰ μόνον κατὰ δόξαν· ἀληθὲς δὲ ἐν τοῖς οὖσιν ὑπάρχειν τὸ ἄτομους εἶναι καὶ κενόν·* Democritus doth discredit sense, attributing not truth to it, but only appearance, and that really nothing exists in the corporeal world but atoms and vacuum. And Democritus's own words concerning it are

these : *Νόμῳ γλυκὺ καὶ νόμῳ πικρὸν, νόμῳ θερμὸν καὶ νόμῳ ψυχρὸν, νόμῳ χροιά· ἐτεῇ δὲ ἄτομα καὶ κενόν·* Sweet and bitter, hot and cold, colors, and the like, are by law and opinion, atoms and vacuum really. That which is supposed and fancied to be are sensibles ; but these are not according to truth, only atoms and vacuum.—Sextus Empiricus likewise in another place writes thus concerning Democritus, *Ἐν δὲ τοῖς κανόσι δύο φησὶν εἶναι γνώσεις, τὴν μὲν διὰ τῶν αἰσθήσεων, τὴν δὲ διὰ τῆς διανοίας, ὧν τὴν μὲν διὰ τῆς διανοίας γνῶσιν κατάγει προσμαρτυρῶν αὐτῇ τὸ πιστὸν εἰς ἀληθείας κρίσιν, τὴν δὲ διὰ τῶν αἰσθήσεων σκοτίην ὀνομάζει, ἀφαιρούμενος αὐτῆς τὸ πρὸς διάγνωσιν τοῦ ἀληθοῦς ἀπλανεί λέγει δὲ κατὰ λέξιν. Γνώμης δὲ δύο εἰσὶν Ιδέαι, ἡ μὲν γνησίη, ἡ δὲ σκοτίη. Καὶ σκοτίης μὲν τὰ δὲ σύμπαντα· Ὄψις, Ἀκοὴ, Ὀδμὴ, Γεῦσις, ψαῦσις· ἡ δὲ γνησίη ἀποκεκρυμμένη δὲ ταύτης·* Democritus in his canons saith that there are two kinds of knowledge, the one by the senses, the other by the mind ; of which that by the mind he calls knowledge, accounting it that which may be trusted for the judgment of truth ; that by the senses, he calleth dark and obscure, denying it to have any certainty as to the knowledge of truth. His own words are these : Of knowledge there are two kinds, the one genuine, the other dark and obscure ; to the dark kind of knowledge are referred seeing, hearing, smelling, tasting, touching ; but the genuine knowledge is more hidden and recondite than this.

Now this concerning Democritus I note the rather more carefully, because Epicurus afterward dotingly fumbling about the same philosophy, made sense to be the only criterion of truth and falsehood, and consequently abused this old Atomical philosophy to Atheism and immorality ; whereas if rightly understood it is the most impregnable bulwark against both ; for this philosophy discovering that the ideas of sense are fantastical, must needs suppose another principle in us superior to sense, which judges what is absolutely and not fantastically or relatively only true or false.

BOOK III.

CHAPTER I.

1. Now although what I have already said may possibly seem a sufficient confutation of Protagoras's objection against the immutable and absolute natures or essences of all things, from that very Atomical physiology which he appeals to, which, if rightly understood, is the most compliable with true metaphysics, and the most subservient to it of any; yet notwithstanding I think it very proper to the business which I have in hand, to launch out further into this argument, to show the different natures of sense and intellection or knowledge, not only that I may thereby the more fully confute this skepticism, or rather fanaticism of Protagoras, and also assert the immutable natures or essences of things, but also for other purposes, which I shall give an account of in the close of this discourse, and I hope then to make it appear that this was no impertinent digression.

2. I shall begin with sense, to show what it is, and that it is not knowledge.

First, therefore, it is acknowledged by all, that sense is passion. And there is in all sensation, without dispute, first, a passion in the body of the sentient, which bodily passion is nothing else but local motion impressed upon the nerves from the objects without, and thence propagated and communicated to the brain, where all sensation is made. For there is no other action of one body upon another, nor other change or mutation of bodies conceivable or intelligible besides local motion; which motion in that body which moves another, is called action, in that which is moved by another, passion. And therefore when a corporeal object very remotely distant is perceived by us, since it is by some passion made upon our body, there must of necessity be a continued propagation of some local motion or pressure from thence unto the organs of our sense, or nerves, and so unto the brain. As when we see many fixed stars sparkling in a clear night, though they be all of them so many thousand semidiameters of the earth distant from us, yet it must of necessity be granted, that there are local mo-

tions or pressures from them, which we call the light of them, propagated continuedly or uninterruptedly through the fluid heavens unto our optic nerves, or else we could not see them. And that motion or pressure by which we see all other opaque bodies, is nothing but the Ἀντέρεισμα, pushing against each other of the etherial globus, globulous particles, striving to move outward from the centre of the vortex resisted or rejected from the solid superficies of them; in the same manner as we feel things at a distance in the dark, by the resistency which they make upon the further end of the staff that we hold in our hands. And when we hear the sound of a bell or cannon a great way off, the tremulous vibrations of the air, like the circlings of the water, when a stone is flung into it, are from thence continually propagated to our ears or acoustic nerves, the undulations still growing the wider and weaker, the further they go.

3. But forasmuch as sense is not mere local motion impressed from one body upon another, or a body's bare reaction or resistance to that motion of another body, as some have fondly conceited, but a cogitation, recognition or vital perception and consciousness of these motions or passions of the body, therefore there must of necessity be another kind of passion also in the soul or principle of life, which is vitally united to the body, to make up sensation. Which passion notwithstanding is of a different kind or species from the former: for the soul, that is a cogitative being, is supposed to be such a thing as can penetrate a body, and therefore cannot be conceived to be locally moved by the local motion of the body. For we see that light which pervades the air, though it be a corporeal motion, yet it is not moved or shaken by the agitations of the air, because it is in a body far more subtle than the air, that runs through the spongy pores of it. Wherefore the soul, though it be conceived to be an extended substance, yet being penetrative of body, not by filling up the pores of it, but by coexisting in the same space with it, cannot be locally moved by the motions of it.

Neither is this passion of the soul in sensation a mere naked passion or suffering; because it is a cogitation or perception which hath something of active vigor in it. For those ideas of heat, light, and colors, and other sensible things, being not qualities really existing in the bodies without us, as the Atomical philosophy instructs us, and therefore not passively stamped or imprinted upon the soul from without in the same manner that a signature is upon a piece of wax, must needs arise partly from some inward vital energy of the soul itself, being phantasms of the soul, or several modes of cogitation or perception in it. For which cause some of the Platonists would not allow sensations to

be passions in the soul, but only παθῶν γνώσεις, active knowledges of the passions of the body.

4. But, as I said before, sense is a passion in the soul also, viz. such a passion as a vital and cogitative being is capable of, because we find by experience that it is not elicited from the soul itself, but obtruded upon it from without; so that the soul cannot choose but have such sensations, cogitations or affections in it, when such or such external objects are presented to the outward senses. The soul receiving its information from without, by sympathizing with the passions of its own body concerning what individual bodies exist round about it, and the general modes of them; which no innate reason of its own could possibly discover to it. And therefore the soul being necessarily determined to exert such cogitations within itself, when such local motions are impressed upon the body which she is vitally united to, these sensations are certain kinds of passive energies of the soul. For the soul and body by reason of that vital union which is betwixt them, making up one compositum, compound or animal, do of necessity mutually suffer from each other, the body being variously moved by the soul, and the soul again variously affected from the body, or the motions which are made upon it. Neither doth the soul suffer indifferently from any body, but all sense arises from that natural sympathy or compassion which the soul hath with that individual body with which it is vitally united. And had not the soul such a passive principle in it, it could not possibly be vitally united to any body, neither could there be any such thing as an animal or living creature.

Moreover, these sensitive cogitations, as we shall show afterward, do plainly differ, in the mode of them, from those pure cogitations that are the actions of the soul itself; there being a vast difference between the senses of hunger and thirst, and mere volitions in the soul to eat and drink, as likewise betwixt that grief and sadness that arises from some ill tidings told and understood by the mind, (though there be something of corporeal passion consequent or concomitant here also) and betwixt a sense of pain when the body is hurt. And in like manner in those other sensations of light and colors, heat and cold, the soul doth not merely know or understand the figure and motions of those corporeal particles, but hath certain confused affections and phantasms within itself by reason of them. From whence it is evident that these sensitive cogitations are not pure actions springing from the soul itself, but compassions with the body. And therefore that opinion of the Platonists is no way to be admitted, that sensations are not passions, but παθῶν γνώσεις, knowledges of the passions, as if they were free and sin-

cere actions of the soul, or released and unpassionate knowledges in it of the passions of the body.

5. Wherefore sensations formally considered are certain passions or affections in the soul fatally connected with some local motions in the body, whereby the soul perceiveth something else besides those immediate corporeal motions in the nerves, spirits or brain. For though the soul do only sympathize with the motions of its own body, yet by sense it doth not take immediate cognizance of those very motions themselves, in the brain, spirits and nerves, perceiving them as they are in themselves, but it is secretly instructed by nature to take notice of some other things thereby that may concern the body.

For, first, the soul is sometimes so affected by reason of those local motions of the blood and heart communicated by the nerves unto the brain, as that it perceives something within itself, viz. certain pathemata, passions of joy or pleasantness, dullness and sadness, or constritation, irascible and concupiscible inclinations, when we know no rational cause for them within ourselves, and therefore they could not spring from the soul itself.

Again, the soul is sometimes so affected by motions communicated from the nerves that belong to the stomach and œsophagus, windpipe, as that it perceives or takes notice of hunger or thirst in those parts of the body, and the like may be said of the other pains or pleasures, pruriences and titillations of the body, which the soul perceives as things existing in some certain parts of the body itself; when the nerves are in a certain way moved.

Lastly, the soul is frequently so affected by the motions of those five other conjugations of nerves, as that by natural instinct it takes notice of some corporeal things existing without our bodies, whence that motion upon the nerves comes, as light, colors, sounds, heat and cold, hardness, softness, gravity, levity, odors, sapours. The objects being many times remotely distant from us; though it does not perceive them in the same manner as they absolutely exist without us.

Now though all these three kinds mentioned be equally passions and sensations in the soul, yet the use of speech hath appropriated the denomination of passions only to the former, and styled the two latter by the name of sensations, the first of them being commonly called internal corporeal senses, the second external. Wherefore corporeal senses in general may be thus defined, to be affections in the soul caused by certain local motions made upon some parts of the body, by reason of the vital sympathy betwixt the soul and body, whereby the soul seems to perceive corporeal things existing without itself, either in its own body, or else at a distance from it.

CHAP. II.

1. Wherefore, sense being a passion in the soul, or a compassion with its own body, which it is vitally united to, that is diversified according to the difference both of local motions and of bodily organs through which those motions are conveyed; there being a necessary and fatal connection between certain motions in some parts of the enlivened body, and certain affections or sympathies in the soul, which Democritus seems to intimate in those words, *νόμῳ ψυχρὸν, νόμῳ θερμὸν*· by law a thing is cold, or by law hot,—that hot and cold, and the like, were passions or phantasms fatally connected with certain local motions in the body. Sense is a kind of dull confused and stupid perception obtruded upon the soul from without, whereby it perceives the alterations and motions within its own body, and takes cognizance of individual bodies existing round about it, but doth not clearly comprehend what they are, nor penetrate into the nature of them, it being intended by nature, *πρὸς χρείαν, οὐ πρὸς γνῶσιν*, as Plotinus speaks, not so properly for knowledge, as for the use of the body. For the soul suffering under that which it perceives by way of passion, cannot master or conquer it, that is to say, know or understand it. For so Anaxagoras in Aristotle very fitly expresses the nature of knowledge and intellection under the notion of *κρατεῖν*, conquering: [1] *Ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι τὸν νοῦν, ὥσπερ φησὶν Ἀναξαγόρας, ἵνα κρατῇ, τοῦτο δὲ ἐστιν ἵνα γνωρίζῃ*· Wherefore it is necessary, since the mind understands all things, that it should be free from mixture and passion, for this end, as Anaxagoras speaks, that it may be able to master and conquer its objects, that is to say, to know or understand them.—In like manner Plotinus, in his Book of Sense and Memory,[2] makes *πάσχειν*, to suffer, and *κρατεῖσθαι*, to be conquered, all one, as also *γινώσκειν* and *κρατεῖν*, to know and to conquer; for which cause he concludes that that which suffers doth not know: *πάσχειν ἀλλ' οὐ γινώσκειν τὸ ἐγγὺς ποιοῦμεν, ὅτι κρατῖν δέδοται, ἀλλ' οὐ κρατεῖσθαι*· That which we make to suffer, eo nomine, in saying so we make it not to know, because to know is to conquer, and not to be mastered or conquered.—Sense, that suffers from external objects, lies as it were prostrate under them, and is over-

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[1] Arist. De Anima, lib. iii. cap. iv.

[2] Plot. De Sensu et Memoria, cap. ii.

come by them: Wherefore no sense judges either of its own passion, or of the passion of any other sense, but judgment or knowledge is the active energy of an unpassionate power in the soul.

2. And for this cause Aristotle himself tells us, that the soul is a heterogeneous thing, and hath μόρια several parts in it of a very different nature from one another. First, a higher and active part, which he calls τὸ χωριστὸν and ἀπαθὲς, that which acts separately from the matter, and is impossible, and this is τὸ νοητικὸν, that which knows and understands;—the other a lower, passive or sympathetical part which suffers from without, and acts in conjunction with the body, and this is τὸ αἰσθητικὸν, that to which sensation belongs. — So that knowledge and intellection are the clear, serene and unpassionate perceptions of the higher part of the soul which acts alone, by and from itself. Sensations are the energies of that lower, passive and sympathetical part, whereby the soul is vitally united to the body, and cleaving to it, makes up one animal with it. Or else they may be said to be the cogitations of the whole compositum, compound, or animal, which is the reason that they are so cloudy and confounded, because they arise from the very crasis, mixture and confusion of the soul and body as it were blended together.

3. For though the soul be a distinct substance, and of a different nature from the body, yet notwithstanding in every animal it is intimately conjoined with the body, and cleaves to it in such a manner, as that both together compound and make up one thing. And therefore it is not present with it only as a mariner with a ship, that is, merely locally, or knowingly and unpassionately present, they still continuing two distinct things; but it is vitally united to it, and passionately present with it. And therefore when the body is hurt, the soul doth not unpassionately know or understand it, as when a mariner knows that a ship hath sprung a leak, or when a man is informed that his neighbor's house is set on fire; but it feels a strong and vehement pain, and hath a dolorous sense or perception of it, as being one thing with it. So in like manner when the body wants either meat or drink, the soul doth not unpassionately know this as an indifferent by-stander, and therefore rationally only will or desire meat and drink for it, but it feels a passionate sense of hunger and thirst in itself, as being intimately concerned in the business. Now the same is true also in those other sensations, in which the animal seems to be less concerned, as of light and color, heat and cold, sounds and odors, that they are not simple knowledges or intellections of that part of the soul which acts alone by itself, but they are the perceptions of that which is vitally united with the

body, and sympathizing with the motions and passions of it, makes up compositum, one compound with it. Wherefore though all cogitations be formally in the soul, and not in the body, yet these sensitive cogitations being in the soul no otherwise than as vitally united to the body, they are not so properly the cogitations of the soul, as of *τὸ μικτὸν*, the mixed, or *συναμφότερον*, both together, as Plotinus calls it, the compound of soul and body, or, as that philosopher will have it, of the body and a certain vivificating light, imparted from the soul to it. And therefore, as he observeth out of Aristotle, *Ὥσπερ ἄτοπον τὴν ψυχὴν ὑφαίνειν*, as it is absurd to say the soul weaves, (or indeed the body either, weaving being a mixt action of the man and weaving instruments) so it is absurd to say that the soul alone doth concupiscere, covet, dolere or sentire, grieve or perceive; these things proceeding from the compound or the coalescence of soul and body together; being not pure mental, but corporeal cogitations of the soul, as it vitally informs the body, and is passionately united to it.

4. Sense therefore is a certain kind of drowsy and somnolent perception of that passive part of the soul, which is as it were asleep in the body, and acts concretely with it. So Plotinus expresses it: [1]*Τὸ τῆς αἰσθήσεως ψυχῆς ἐστιν εὐδούσης· ὅσον γὰρ ἐν σώματι ψυχῆς, τοῦτο εὕδει·* Sense is of that part of the soul that sleeps, for that of the soul that is immersed into the body, is as it were asleep.—It is an energy arising from the body, and a certain kind of drowsy or sleeping life of the soul blended together with it. The perceptions of which compositum or animæ semisomnis, compound, or of the soul as it were half asleep and half awake,—are confused, indistinct, turbid and encumbered cogitations, very different from the energies of the noetical part, that acts alone, without sympathy with the body, which are free, clear, serene, satisfactory and awakened cogitations, that is to say, knowledges.

And that these cogitations of the passive part of the soul called sensations, are not knowledges or intellections, is evident by experience also, not only in the senses of hunger and thirst, pain and corporeal titillation, but also in all those other perceptions of light and colors, heat and cold, sounds, odors, and sapours. For if they were knowledges or intellections, then all men would rest satisfied in the sensible ideas or phantasms of them, and never inquire any further, at least when the stroke or impression made upon sense were strong and vigorous, as when we see the clear light of the meridian sun, or hear the loud noise of thunder, whereas the one doth but dazzle our eyes, the

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[1] Enn. iii. lib. vi.

other deafens our ears, but neither enlighten nor inform our understandings. Whereas, on the contrary, the minds of men are restlessly inquisitive after some further intellectual comprehension of all these things that we perceive by our several senses. Neither is this true of the vulgar only, but it is very observable, that the most acute philosophers in all ages have complained of their ignorance of these things; and indeed have confessed themselves more puzzled and at a loss about these sensible things, than those abstract immaterial things which are remote from bodily sense. Luminis et colorum essentiæ sunt intellectui tam obscuræ, quam sunt ipsa visui manifesta. The essences of light and colors (saith Scaliger) are as dark to the understanding, as they themselves are open to the sight.—Nay, undoubtedly so long as we consider these things no otherwise than sense represents them, that is, as really existing in the objects without us, they are and must needs be eternally unintelligible. Now when all men naturally inquire, what these things are, what is light, and what are colors, the meaning hereof is nothing else but this, that men would fain know or comprehend them by something of their own which is native and domestic, not foreign to them, some active exertion or anticipation of their own minds, as I shall show afterwards.

Wherefore though sense be adequate and sufficient for that end which nature hath designed it to, viz. to give advertisement of corporeal things existing without us, and their motions for the use and concernment of the body, and such general intimations of the modes of them, as may give the understanding sufficient hints by its own sagacity to find out their natures, and invent intelligible hypotheses to solve those appearances by; (for otherwise reason alone without sense could not acquaint us with individual existent things without us, or assure us of the existence of any thing besides God, who is the only necessarily existent Being;) yet notwithstanding sense, as sense, is not knowledge or intellection; which I shall still make further appear by these following more particular considerations.

CHAP. III.

1. For, first, sense only suffering and receiving from without, and having no active principle of its own, to take acquaintance with what it receives, it must needs be a stranger to that which is altogether adven-

titious to it, and therefore cannot know or understand it. For to know or understand a thing, is nothing else but by some inward anticipation of the mind, that is native and domestic, and so familiar to it, to take acquaintance with it; of which I shall speak more afterward.

2. Sense is but the offering or presenting of some object to the mind, to give it an occasion to exercise its own inward activity upon. Which two things being many times nearly conjoined together in time, though they be very different in nature from one another, yet they are vulgarly mistaken for one and the same thing, as if it were all nothing but mere sensation or passion from the body. Whereas sense itself is but the passive perception of some individual material forms, but to know or understand, is actively to comprehend a thing by some abstract, free and universal ratio's, reasonings, from whence the mind, quasi desuper spectans concepta forma quæ subsunt dijudicat, as it were looking down (as Boetius expresseth it) upon the individuals below it, views and understands them.—But sense which lies flat and grovelling in the individuals, and is stupidly fixed in the material form, is not able to rise up or ascend to an abstract universal notion. For which cause it never affirms or denies any thing of its object, because (as Aristotle observes) in all affirmation, and negation at least, the predicate is always universal. The eye which is placed in a level with the sea, and touches the surface of it, cannot take any large prospect upon the sea, much less see the whole amplitude of it. But an eye elevated to a higher station, and from thence looking down, may comprehensively view the whole sea at once, or at least so much of it as is within our horizon. The abstract universal rationes, reasons, are that higher station of the mind, from whence looking down upon individual things, it hath a commanding view of them, and as it were a priori comprehends or knows them.

But sense, which either lies in the same level with that particular material object which it perceives, or rather under it and beneath it, cannot emerge to any knowledge or truth concerning it.

3. Sense is but a slight and superficial perception of the outside and accidentals of a corporeal substance, it doth not penetrate into the profundity or inward essence of it. For a body may be changed as to all the several senses, and remain really the same that it was before. Wherefore though men are commonly said to know things when they see and feel them, yet in truth by their bodily senses they perceive nothing but their outsides and external induments. Just as when a man looking down out of a window into the streets, is said to perceive men walking in the streets, when indeed he perceives nothing but hats and

clothes, under which, for aught he knows, there may be Dædalean statues moving up and down. Neither is this spoken only in respect of that defect of sight (to omit the other senses) which is a little relieved by microscopical glasses, that it cannot perceive the figures and contextures of those minute particles out of which bodies are compounded, nor penetrate beyond the superficies into their corporeal profundity; for though our sight were so much the more than Lycean, that it could discover the very pores in glass through which the light passes, as Aristotle complains it cannot; nay, though it could discern the particular globuli, globulous particles, in the motion of which light consisteth, and the triangular spaces between them through which the smallest and most subtile striated matter passes; yet notwithstanding it would not reach to the essential profundity either of body, or sphericalness, or triangularity, which nothing but the subtle acies, sharpness, of the mind can penetrate into; so as to comprehend the immutable ratio, reason, of any of them. And therefore it is rightly pronounced by that excellent restorer of the old Atomical and Moschical philosophy, Ipsamet corpora non proprie a sensibus vel ab imaginandi facultate, sed solo intellectu percipi, nec ex eo percipi quod tangantur aut videantur, sed tantum ex eo quod intelligantur. That even bodies themselves are not properly perceived by the senses, or by the imagination, but by the understanding alone; nor are therefore perceived because they are touched or seen, but only because they are understood.—

4. The essence of nothing is reached unto by the senses looking outward, but by the mind's looking inward into itself. That which wholly looks abroad outward upon its object, is not one with that which it perceives, but is at a distance from it, and therefore cannot know and comprehend it; but knowledge and intellection doth not merely prospicere, look out upon a thing at distance, but makes an inward reflection upon the thing it knows, and according to the etymon of the word, intellectus, the intellect doth in interioribus legere, read inward characters written within itself, and intellectually comprehend its object within itself, and is the same with it. For though this may be conceived to be true of individual things known (although the mind understands them also under abstract notions of its own) yet, at least in Aristotle's sense, it is unquestionably true, *Ἐπὶ τῶν ἄνευ ὕλης τὸ αὐτό ἐστι τὸ νοῦν καὶ τὸ νοούμενον·* In abstract things themselves, which are the primary objects of science, the intellect and the thing known are really one and the same. For those ideas or objects of intellection are nothing else but modifications of the mind itself. But *Αἴσθησις τοῦ ἔξω·* Sense is of that which is without, sense wholly gazes and gads

abroad, and therefore doth not know and comprehend its object, because it is different from it. *Αἴσθησις γραμμὴ, νοῦς κύκλος·* Sense is a line, the mind is a circle.—Sense is like a line which is the flux of a point running out from itself, but intellect like a circle that keeps within itself.

5. Sense apprehends individual bodies without, by something derived from them, and so a posteriori, *ὕστεραι οὖσαι αἰσθήσεις εἰκόνες εἰσι·* The senses being last, are the images of the things.—The sensible ideas of things are but umbratile and evanid images of the sensible things, like shadows projected from them; but knowledge is a comprehension of a thing proleptically, and as it were a priori. But now to lay aside metaphysics, and speak plainly, all that which comes from the individual object of sense from without, (as we have already declared) is nothing at all but local motion or pressure, when an enlivened body is jogged or thrust upon by some other body without. But to receive or feel a jog, knock or thrust from without made upon the body which the soul is united to, this is not to know, no not so much as what local motion is, much less to all other things. For knowledge is not a knock or thrust from without, but it consisteth in the awakening and exciting of the inward active powers of the mind.

6. This point which I have hitherto insisted upon concerning the shallowness, dulness and bluntness of sense, in that it cannot penetrate to the essences of things, is very ingeniously and philosophically handled by Plato, in his Theætetus; where he demonstrates against Protagoras, that science is not sense, but that there is another power in the soul besides that of sense or passion, to which science, knowledge and intellection is to be referred after this manner. First, Socrates obtains this from Theætetus, that sense is when the soul, by or through several organs of the body, takes cognizance of several corporeal things without. And, secondly, that one sense or organical perception cannot take cognizance of the object of another; as sight cannot see sounds, nor the hearing hear light and colors. And therefore where we think of the objects of several senses comparing them together, and considering of some things common to them all, this cannot be sense or organical perception; because one sense cannot consider the object of another sense. *Εἴ τι ἄρα περὶ ἀμφοτέρων διανοῇ, οὐκ ἂν διάγε τοῦ ἑτέρου ὀργάνου αἰσθάνοι ἄν·* If any thing concerns both, it cannot perceive it by either organ.—As when we consider sound and color together at once, and attribute several things to them in common; as first of all, essence. And then that in each of them is identity with itself, and diversity to the other, that both of them are two, and each of

them one; that they are not like, but unlike to one another; what sense or organ is there by which the soul perceives all these things, viz. essence and non-essence, identity, diversity, unity, duality, similitude, dissimilitude, things common both to sound and color? Surely it cannot be neither by the senses of sight or of hearing, because these cannot consider one another's objects. Neither can we find any other organ in the body by which the soul may passively take cognizance of all these things, and consider the objects of both those other senses of sight and hearing. Whereby he makes Theætetus confess, that these things the soul doth not organically perceive by any sense, but by itself alone without any bodily organ. And therefore, *Τὰ μὲ αὐτὴν δὶ αὑτῆς ψυχὴν ἐπισκοπεῖν, τὰ δὲ διὰ τῶν τοῦ σώματος δυνάμεων·* Some things the soul perceives by itself, or by its own active power,—as essence, similitude, dissimilitude, identity, alterity, good and evil, honest and dishonest. Other things it perceives by and through the organs of the body; as for example, by the sense of touch the soul perceives nothing but the hardness of that which is hard, and the softness of that which is soft, and the like. But essence, and what hardness and softness is, and their contrariety to one another; and again, the essence of contrariety itself, the soul alone by itself discoursing endeavors to judge of. Wherefore there is this difference between those things that come into the soul by the passions of the body, and those things that arise from the ratiocinative power of the soul itself: *Τὰ μὲν εὐθὺ γενομένοις πάρεστι φύσει αἰσθάνεσθαι ἀνθρώποις τε καὶ θηρίοις, ὅσα διὰ τοῦ σώματος παθήματα ἐπὶ τὴν ψυχὴν τείνει· τὰ δὲ περὶ τούτων ἀναλογίσματα πρός τε οὐσίαν καὶ ὠφέλειαν μόγις καὶ ἐν χρόνῳ διὰ πολλῶν πραγμάτων καὶ παιδείας παραγίγνεται, οἷς ἂν καὶ παραγίγνηται·* That both men and beasts do naturally perceive as soon as they be born those things that come into the soul by the passions of the body. But ratiocinations concerning these things as to the natures and essences of them, and their utilities, are slowly by labor and help of institution attained unto.—Now that which doth not reach to the essence of any thing, cannot reach to truth or knowledge. Wherefore he concludes, *Ἐν μὲν ἄρα τοῖς παθήμασιν οὐκ ἔστιν ἐπιστήμη, ἐν δὲ τῷ περὶ ἐκείνων συλλογισμῷ· οὐσίας γὰρ καὶ ἀληθείας ἐνταῦθα μὲν ὡς ἔοικε δυνατὸν ἅψασθαι, ἐκεῖ δ' ἀδύνατον·* That there is no knowledge or science in passions, but in the discourse of the mind upon them; for in this latter way it is possible to reach to the essence and truth of things, but impossible in the former.—And that we ought not *Ζητεῖν ἐπιστήμην ἐν αἰσθήσει τὸ παράπαν, ἀλλ' ἐν ἐκείνῳ τῷ ὀνόματι ὅτι ποτ' ἔχει ἡ ψυχή, ὅταν αὐτὴ καθ' αὑτὴν πραγματεύηται περὶ τὰ ὄντα·* To seek knowledge any more in sense, but in that of the soul, whatsoever it be called, which doth alone by itself contemplate things that are.

CHAP. IV.

1. But I have still something more to add concerning this argument before I dismiss it. Wherefore in the next place I shall make it further appear, that sense is not science or intellection, because the soul by sense doth not perceive the things themselves, or the absolute natures of them, but only her own passions from them. This Sextus the philosopher took notice of: [1] *Αἱ αἰσθήσεις τὰ ἐκτὸς ὑποκείμενα οὐ καταλαμβάνουσι, μόνα δὲ εἰ ἄρα τὰ ἑαυτῶν πάθη·* The senses do not reach to the objects that are placed without, but to their own passions alone.—And this is that which Protagoras so much insisted on, that *τὰ αἰσθητα*, all our sensible ideas of light and colors, sounds, odors, sapours, heat and cold, and the like, are not absolute but relative things. For neither is *αἰσθήσις*, sensation, any thing of the soul considered absolutely in itself, it being no pure and sincere cogitation of the soul alone, neither is *τὸ αἰσθητὸν*, the sensible idea, any absolute quality of the object without, but both these (viz. *αἰσθήσις* and *αἰσθητὸν*, sense and sensible) are certain middle things begotten betwixt the agent and the patient, and resulting from the activity of the object without, and the passion of the mind within, and severally respecting each of them. Or, as he expressed it, *Ἐκ τῆς τούτων ὁμιλίας τε καὶ τρίψεως πρὸς ἄλληλα γίγνεται τὸ μὲν αἰσθητὸν, ἡ δὲ αἴσθησις, ἀεὶ συνεκπίπτουσα καὶ γεννωμένη μετὰ τοῦ αἰσθητοῦ·* From the congress or collision of these two together are generated at once both sense and the sensible; for the sensible (formally considered, according to that idea that we have of it) hath no existence before sensation, but is begotten with it.—And therefore, *Ὃ δὴ ἕκαστον εἶναι φαμὲν χρῶμα οὔτε προσβάλλον οὔτε τὸ προσβαλλόμενόν ἐστι, ἀλλὰ μεταξύ τι·* color, and the rest, is neither any thing really existing in the object without, nor yet any thing in the soul itself, but a middle thing betwixt both, that is, a passion.—Which is the very same with that which Aristotle imputes to the ancient physiologers as a paradox, that black and white were not without the sight.

The truth of which is so evident in some instances, that none can possibly gainsay it. For when the body is either pricked with a needle or wounded with a sword, no man can imagine that those pains that result from thence were such real and absolute qualities existing in the needle or sword before our sensation, but that they are our own pas-

[1] Pyrr. Hyp. lib. ii. cap. vii.

sions, and so relative things to us, or perceptions of the motions of the needle or sword relatively to the enlivened body, and as they are hurtful to it. And the same is vulgarly acknowledged in those colors that are therefore called fantastical, as in the Iris, rainbow, and the prism, whereas in reality all colors are as fantastical as the colors of the rainbow, and the colors of the rainbow as real as any other. And it is likewise true of the other proper objects of the several senses. For as Sextus the philosopher observes, *Οὐ τὸ αὐτὸ ἔστι τὸ μέλι τῷ γλυκάζεσθαί με, καὶ τὸ ἀψίνθιον τῷ πικράζεσθαι·* Honey is not the same thing with my being sweetened, nor wormwood the same with my having sense of bitterness.—That which we know by sense concerning honey and wormwood, is only that our taste is so affected from them; but what absolute mode or disposition of parts in them causes these different sensations in us, belongs to some other faculty of the soul to discover. And hence it comes to pass, that though the natures or essences of things be simple, yet one and the same thing perceived by our several senses begets several passions and phantasms in us. Flame, which is nothing but a violent agitation of the small particles of a body by the rapid subtle matter; the same motion communicated to the eye or optic nerves begets one kind of sensible idea or phantasm called light, but to the nerves of touch another quite different from it called heat; therefore neither light nor heat, according to those sensible ideas that we have of them, are really and absolutely the flame without, which is but one kind of motion or agitation of matter, but only fantastically and relatively, the one to our sight, the other to our touch. And hence it proceeds also that sensations are diversified from the same thing to several individuals of the same kind, and to the same individual at several times, by reason of some difference in the idiosyncrasy or proper temperament of the body, as (to omit the instance of those that are icterical) appears plainly in the degrees of heat and cold, the gratefulness or ungratefulness of several tastes and odors to several individuals, or to the same considered both in sickness and in health; which things could not be, if all sensible ideas were absolute qualities in the thing itself, and so taken notice of by sense. And it is worth the while to see how Protagoras philosophized about this latter instance; improving it to this purpose: *Ὅταν οἶνον πίνω ὑγιαίνων, ἡδὺς μοὶ καὶ γλυκύς. Ἐγέννησε γὰρ δὴ τότε ποιοῦν καὶ τὸ πάσχον γλυκύτητά τε καὶ αἰσθήσιν ἅμα φερόμενα ἀμφότερα. Καὶ ἡ μὲν αἰσθήσις πρὸς τοῦ πάσχοντος οὖσα αἰσθανομένην τὴν γλῶσσαν ἀπειργάσατο. Ἡ δὲ γλυκύτης πρὸς τοῦ οἴνου περὶ αὐτὸν φερομένη γλυκὺν τὸν οἶνον τῇ ὑγιαινούσῃ γλώσσῃ καὶ εἶναι καὶ φαίνεσθαι. Ὅταν δὲ ἀσθενοῦντα ἀλλότι ἤ πρῶτον μὲν τῇ ἀληθείᾳ, οὐ τὸν αὐτὸν ἔλαβεν, ἀνομοίῳ*

γὰρ δὴ προσῆλθε. Ἕτερα δὴ αὖ ἐγεννησάτην ὅτε τοιοῦτος, καὶ ἡ τοῦ οἴνου πόσις περὶ μὲν τὴν γλῶτταν αἴσθησιν πικρότατος, περὶ δὲ τὸν οἶνον γιγνομένην καὶ φερομένην πικρότητα· When I drink wine, being in health, it appears pleasant and sweet. For the agent and the patient betwixt them beget both sense and sweetness, severally respecting the agent and the patient. For sense respecting the patient, makes and denominates the tongue sentient, and sweetness respecting the agent (that is, the wine) makes and denominates that sweet, not absolutely but respectively to the tongue of one that is in health. But when the patient is altered by sickness, and becomes different from what it was, then it receives quite another taste than formerly, for it comes to a very different patient. Quite different things are produced by the person and the drinking of the wine; respecting the tongue a sense of bitterness, and as to the wine its being made and denominated bitter.—

Wherefore since by sense the soul doth not perceive corporeal objects, as they are truly, really and absolutely in themselves, but under some fantastical representations and disguises, sense cannot be knowledge, which comprehends a thing as it is. And indeed if the soul had no other power in it but only this of passion or sensation (as Protagoras supposed) then there could be no such thing at all as any absolute truth or knowledge. But that hypothesis of his, as we have already showed, plainly contradicts and confutes itself. For that which pronounces that our sensible ideas of things are fantastical and relative, must needs be something in us superior to sense, that is, not relative or fantastical, but that judges what really and absolutely is and is not.

2. But to strike this business home, I shall in the last place further observe, that sense cannot be knowledge, nor the certainty of all things ultimately resolvable into sense, as many men besides Protagoras conceive, for this reason, because the nature of sense consists in nothing else but mere seeming or appearance. This was intimated before in that definition that we gave of sense, that it is ἐν τῷ δοκεῖν, or ἐν τῷ φαίνεσθαι, a passion or affection in the soul, whereby it seems to perceive some corporeal things existing. That is, sense is when the soul is so affected, as if there were such a corporeal thing existing. So that all the reality that is necessarily required to sense, is only this, that there be really a passion in the soul, or that the soul be really so affected, as if there were such a thing; that is, that it have really such a seeming or appearance, but not that the thing really be, as it appears. For as to a thing's being such or such, its having such a mode or quality, we have already demonstrated by reason, that in this respect, most of our sensible ideas are fantastical things. And the same may be evinced and

made evident also by sense itself; for it is as true and real a sensation, when a man looking upon a staff that is partly in the air, and partly in the water, sees it crooked (though it be really straight) as when he looks upon it all in the air, and sees it straight as really it is; for we are as really affected, and there is as much a seeming in one as in the other. And innumerable instances might be given in this kind, to prove that as to things being such or such, there is no other truth or reality necessarily required in sensation, but only that of appearance.

But this is not all, for I shall observe in the next place that there is not so much as the reality of being or existence of the object necessarily required to sensation; but there may be a true sensation, though there be no object at all really existing without the soul. A known and approved instance whereof we have in those that, after they had their arms and legs cut off, have been sensible, when they were awake, of a strong and violent pain in their fingers and toes, though really they had no such members. And we have all constant experience of the same in our dreams, which are as true sensations, as those which we have when we are awake, and when the objects are really existent without us. Because the soul is as really affected, and hath as lively images, ideas and phantasms of sensible things as existent then, as when we are awake, and many times is really sensible of violent and exquisite pain, which is a real sense, though it be but a fantastical thing; and immediately vanishes away upon our awakening. Because there was nothing really in the body, that by the motions of the nerves could beget a real pain.

3. Now the reason of this, that the soul may be passively affected in this manner, when there is no object at all really existing without it; is from hence. Because by sense the soul doth not suffer immediately from the objects themselves, but only from its own body, by reason of that natural and vital sympathy which it hath with it, neither doth it suffer from its own body in every part of it, or from the outward organs of sense immediately; as from the eye when we see, the tongue when we taste, or the exterior parts of the body when we feel, but only in the brain, or from the motions of the spirits there. But so as that it doth not take immediate cognizance of those very motions immediately as they are in themselves, but by the secret instinct of nature doth by means of them take cognizance of those corporeal things existing without us, from whence the original of the motion comes. As for example, of the stars that are so vastly distant, when we look upon the heavens. Whence it comes to pass, that if that body from which the soul immediately suffers, and that is the spirits in the brain, be so moved, as it

would be moved by the nerves when any outward objects present make their several impressions upon the organs of sense, the soul must needs have the same passions, affections and sensations in it, as if the objects were really existing without. Now this may come to pass either by the fortuitous motions or agitations of the spirits themselves, casually falling into the same figurations, that the motions of the nerves would impress upon them from some outward objects; or else by the spirits rushing against certain prints, traces or marks in the brain, made by former sensations when we were awake, whereby their motions are determined. Or, lastly, by the fantastical power of the soul itself, which as it suffers from the body, so it can likewise act upon it; and according to our customary actions, or inward affections, inclinations or desires, may move the spirits variously, and beget divers phantasms in us.

And that dreams are many times thus begotten or excited by the fantastical power of the soul itself, is evident from the orderly connection and coherence of imaginations, which many times are continued in a long chain or series; with the fiction of interlocutory discourses and dialogues, consisting of apt answers and replies made interchangeably to one another, and contain such things as never were before printed upon the brain in such a series or order; which therefore could not proceed either from the fortuitous dancings or subsultations of the spirits, or from the determination of their motion, by antecedent prints or traces made by former sensations in the substance of the brain.

4. And the dreams that we have in our sleep, are really the same kind of things with those imaginations that we have many times when we are awake, when the fancy, being not commanded or determined by the will, roves, and wanders, and runs at random; and spins out a long thread or concatenated series of imaginations or phantasms of corporeal things, quite different from those things which our outward senses at the same time take notice of. And some persons there are to whom these waking dreams are very ordinary and familiar.

And there is little doubt to be made but if a man should suddenly fall asleep in the midst of one of these waking dreams, when his fancy is roving and spinning out such a long series of imaginations, those very imaginations and phantasms would, ipso facto, of course, become dreams, and run on, and appear not as phantasms or imaginations only of things feigned or nonexistent, but as perceptions of things really existent, that is, as sensations.

Whereas these imaginations that we have of individual corporeal things when we are awake, and our outward senses employed upon their several objects, do not seem to be sensations of things really exist-

ing and present, as our dreams do, but to be certain faint, evanid, shadowy and umbratile things, in comparison of those sensations which we have at the same time with them when we are awake, that is, not as things existent without us, but as our own cogitations. The reason whereof is, because though they be both of the same kind, yet those motions of the spirits which are caused by the nerves, from the objects without when we are awake, being more vigorous, durable, constant and prevalent, do naturally obscure or extinguish those other weaker phantasms or imaginations which we have at the same time. And reason interposing, brings in its verdict for those stronger phantasms also whose objects are durable and permanent, by means whereof the latter only seem to be real sensations, the former counterfeit and fictitious imaginations; or mere picture and landscape in the soul. And this Aristotle long ago observed in this manner: *Μεθ' ἡμέραν ἐκκρούονται, ἐνεργουσῶν τῶν αἰσθήσεων καὶ τῆς διανοίας, καὶ ἀφανίζονται ὥσπερ παρὰ πολὺ πῦρ ἔλαττον, καὶ λύπαι καὶ ἡδοναὶ μικραὶ παρὰ μεγάλας, παυσαμένων δὲ ἐπιπολάζει καὶ τὰ μικρά·* In the day they are shut out and disappear, the senses and understanding working, as the lesser fire is made to disappear by the greater; and small griefs and pleasures by great ones. But when we are at rest in our beds, the least phantasms make impressions upon us.—In the day time, and when we are awake, those more fleeting fancies and imaginations, which proceed not from the motions of the nerves, caused by the objects without, must needs yield and give place, as being baffled and confuted by those stronger, more durable and lasting motions that come from the nerves, caused by permanent objects, reason also carrying it clearly for the latter, by means whereof the former cannot appear as real things or sensations. But when we are asleep, the same phantasms and imaginations are more strong, vivid and lively; because the nerves are relaxated, there are often no motions transmitted by them from the outward objects into the brain, to confound those motions of the spirits within, and distract the soul's attention to them; just as the same loudness of a voice in a still evening will be heard a great deal further and clearer, than in the day-time when the air is agitated with many contrary motions crossing and confounding one another. But now there are no other motions of the spirits, besides these which cause dreams to compare with them; and disgrace them, or put them out of countenance; and as it were, by their louder noise and clamors, so to possess the animadversive part of the soul, that the weaker murmurs of the other cannot obtain to be heard, as it is when we are awake, or in the day-time. And therefore in sleep the mind naturally admits those phantasms as sensations, there appearing none other to contradict that verdict.

5. Wherefore, phantasms and sensible ideas are really or materially the same thing, which Aristotle intimates, affirming that φαντασία is αἴσθησίς τις ἀσθενής· that fancy is a weak kind of sense, and φαντάσματα are οἷον αἰσθήματα· phantasms are as sensations;—for both phantasms and sensations are passions or sufferings in the soul from the body. And yet notwithstanding every phantasm doth not seem to be a corporeal thing really existing without the soul, as a αἴσθημα, sensation, doth. Wherefore there are two cases in which a phantasm doth not seems to be αἴσθημα, a sensation. First, when a phantasm is raised or excited purposely and voluntarily, by the mere imperium, command, or empire of our own will; as by experience we find it often is. For it is in our power to fancy what corporeal thing or person (formerly known to us) we please, though it be absent from us. Nay, and to compound such things as we never saw before; as a golden mountain, a centaur, a chimæra. Now in this case, when the soul is conscious to itself, that these phantasms are arbitrarily raised by it, or by its own activity, it cannot look upon them as sensations, or things really existing without itself, but only as evanid images, pictures and adumbrations of things within itself. And such phantasms as these do usually accompany most of our other cogitations. Wherefore φαντάσματα, phantasms do not seem to be αἰσθήματα, sensations or perceptions of things as really existing without the soul, when they are voluntary, or when the soul is inwardly conscious that they are raised up by its own activity.

Secondly, neither doth every involuntary phantasm, or such as the soul is not conscious to itself to have purposely excited or raised up within itself, seem to be αἴσθημα, a sensation or perception of a thing, as existing without us; for there may be straggling phantasms, which come into the mind we know not how; and bubble up of themselves, which yet the soul may distinguish from αἰσθήματα, sensations, or perceptions of things, as existing really without it; because of some other phantasms at the same time in the soul, whose vigors and lustre do cloud and eclipse them. For when there are phantasms of several kinds at the same time in the soul, or such as arise from different motions of the spirits, the soul silently comparing both together, naturally looks upon the more vigorous, strong and permanent of those phantasms only as real existences; but the more faint, flitting, and transitory, as imaginary things. Now there are two kinds of involuntary phantasms, as I have already intimated, in the soul, when we are awake. One that proceeds from such motions of the spirits as are caused by the nerves moved from the objects without. Another that proceeds

from the spirits of the brain, otherwise moved than by the nerves. And therefore in vigilia, when we are awake, and have phantasms of both these kinds together in the soul, those phantasms that arise from the motions of the nerves caused by the objects without, appearing very different from those other phantasms that arise from the spirits otherwise moved than by the nerves, both in respect of their vigor and constancy, do therefore to all such persons, as are not distempered either in body or in mind, naturally seem to be real, or things existing without the soul, but the latter imaginary. Whereas in sleep, when the nerves being relaxated, communicate no motion to the spirits, the very same phantasms (there being now no other and stronger to compare with them and discredit or disgrace them) do naturally appear to the soul as sensations of things really existing without the soul.

6. Now the truth of this matter doth evidently appear from hence, in that by reason of some disease either of body or mind, men's spirits may be so furiously, violently or strongly agitated, that those phantoms which do not arise from the motion of the nerves, being most prevalent and predominant, even when they are awake, may become, *αἰσθήματα*, sensations and appearances of things as really existing without the soul; that men may confidently believe they hear, see and feel those things that are not, and be imposed upon in all their senses. Which is a thing that frequently happens, not only in phrenetical, maniac and hypochondriacal persons, of which there are many instances recorded, but also in others possessed with strong passions of fear, love, and the like. Wherefore as sense, that is, the phantasms that arise from the motion communicated to the spirits of the brain by the nerves, do ordinarily baffle and confute imaginations and fancy; that is, those phantasms that arise from the spirits, otherwise moved than by the nerves, so likewise imaginations growing wild, rampant and exorbitant, may in the same manner baffle and confute all our senses.

7. Which exorbitancy of fancy or imagination prevailing over sense, or those phantasms which arise from the motion communicated to the brain from the objects without by the nerves, may either proceed originally from some disease in the body, whereby the animal spirits being furiously heated and agitated, may be carried with so great a force and career, as that the motions caused from the objects by the nerves being weakened, may yield and give place to them, and their phantasms be in a manner silent, vanquished and obliterated by them; those stronger phantasms that arise from the agitation of the spirits themselves, possessing the place of them, the affection or animadversion of the soul being always won by those phantasms that make the loudest

noise, or have the greatest vigor. Or else the same thing may proceed originally from some disease or distemper in the soul itself. When the lower, irrational and passive part of the soul (in which the concupiscible and irascible affections are seated) and so by consequence, the fantastic power of the soul (the same power that begets in us those waking dreams before mentioned) grows excessively and exorbitantly predominant, insomuch that it doth not only weaken and extinguish the noetical powers, which are always proportionably debilitated as this is invigorated, but also prevent the power of sense itself, the immoderate activity of the fancy not permitting the soul to suffer from, or be passive to, the action of the objects upon it, nor quietly to receive the impressions of them, without ruffling and confounding them. And this is that sad and lamentable condition that the soul of man is liable and obnoxious to, by its over much indulgence to that passive and irrational and corporeal part in which the affections, appetites and desires are seated; a condition which, if it continue always, is worse than death itself, or perfect annihilation. To have not only reason degraded and dethroned, but even sense itself perverted or extinguished, and in the room thereof boisterous phantasms protruded from the irrational appetites, passions and affections (now grown monstrous and enormous) to become the very sensations of it, by means whereof it is easy to conceive that the Divine nemesis, vengeance, may make the soul its own tormentor, though there were no other hell without it, not only by representing most loathsome and affrightful, dismal and tragical scenes of things to itself, but also by cruciating itself with exquisite and sensible pains. And the serious consideration hereof should make us very careful how we let the reins loose to that passive irrational part of our soul, which knows no bounds nor measures, lest thereby we unawares precipitate and plunge ourselves headlong into the most sad and deplorable condition that is imaginable.

8. I shall not discourse here, of that power also which evil genii, spirits, may possibly have upon those that have either mancipated themselves unto them, or otherwise forfeited that ordinary protection which divine providence commonly affordeth to all, by acting immediately upon the spirits of the brain, and thereby endeavor to give an accout of those phenomena of wizards and witches vulgarly talked of, their seeming transportations in the air, nocturnal conventicles and junketings, and other such like things, as seem plainly contradictious and unreconcilable to philosophy. But we have already said enough to prove that sense is nothing but seeming and appearance. And therefore we can have no certainty by sense alone either concerning

the absolute natures of individual corporeal things without us, nor indeed of their existence; but all the assurance that we have thereof arises from reason and intellect judging of the phantasms and appearances of sense, and determining in which of them there is an absolute reality, and which of them are but merely relative or fantastical.

BOOK IV.

CHAPTER I.

1. Having hitherto showed that sense or passion from corporeal things existent without the soul, is not intellection or knowledge, so that bodies themselves are not known or understood by sense; it must needs follow from hence, that knowledge is an inward and active energy of the mind itself, and the displaying of its own innate vigor from within, whereby it doth conquer, κρατεῖν, master and command its objects, and so begets a clear, serene, victorious, and satisfactory sense within itself.

Wherefore though it be vulgarly conceived that knowledge arises from the force of the thing known, acting upon that which knows from without; yet contrariwise it is most certain, to use Boetius's expression: Id quod scitur, non ex sua vi, sed ex comprehendentis vi et facultate sciri vel cognosci. That intellection and knowledge do not arise from the force and activity of the thing known from without, upon that which knows, but from the inward power, vigor and activity of the mind that knows actively, comprehending the object within itself, and subduing and prevailing over it.—So that knowledge is not a passion from any thing without the mind, but an active exertion of the inward strength, vigor and power of the mind, displaying itself from within; and the intelligible forms by which things are understood or known, are not stamps or impressions passively printed upon the soul from without, but ideas vitally protended or actively exerted from within itself.

2. A thing which is merely passive from without, and doth only receive foreign and adventitious forms, cannot possibly know, understand or judge of that which it receives, but must needs be a stranger to it, having nothing within itself to know it by. The mind cannot know any thing, but by something of its own, that is native, domestic and familiar to it. When in a great throng or crowd of people, a man looking round about, meets with innumerable strange faces, that he never saw before in all his life, and at last chances to espy the face of one old

friend or acquaintance, which he had not seen or thought of many years before; he would be said in this case to have known that one, and only that one face in all that company, because he had no inward, previous or anticipated form of any other face, that he looked upon, in his mind; but as soon as ever he beheld that one face, immediately there revived and started forth a former anticipated form or idea of it treasured up in his mind, that, as it were taking acquaintance with that newly received form, made him know it or remember it. So when foreign, strange and adventitious forms are exhibited to the mind by sense, the soul cannot otherwise know or understand them, but by something domestic of its own, some active anticipation or prolepsis within itself, that occasionally reviving and meeting with it, makes it know it, or take acquaintance with it. And this is the only true and allowable sense of that old assertion, that knowledge is reminiscence, not that it is the remembrance of something which the soul had some time before actually known in a pre-existent state; but because it is the mind's comprehending of things by some inward anticipations of its own, something native and domestic to it, or something actively exerted from within itself.

And thus Plotinus argues, when he endeavors to prove that the immediate *τὰ νοητά*, objects of knowledge and intellection, are not things without the mind acting upon it at a distance, but contained and comprehended within the mind itself. *Πῶς δὲ καὶ γνώσεται ὅτι ἀντελάβετο ὄντως, πῶς δὲ ὅτι ἀγαθὸν τοῦτο ἢ ὅτι καλὸν ἢ δίκαιον; Ἕκαστον γὰρ τούτων ἄλλο αὐτοῦ, καὶ οὐκ ἐν αὐτῷ αἱ τῆς κρίσεως ἀρχαὶ αἷς πιστεύσει ἀλλὰ καὶ αὗται ἔξω καὶ ἡ ἀλήθεια ἐκεῖ·* Otherwise how should the mind know or judge when it had really apprehended any thing, that this is good, that honest or just, these things being all strangers to the mind, and coming into it from without. So that the mind could not have any principles of judgment within itself in this case, but these would be without it, and then the truth must needs be without it also.—

3. If intellection and knowledge were mere passion from without, or the bare reception of extraneous and adventitious forms, then no reason could be given at all why a mirror or looking-glass should not understand; whereas it cannot so much as sensibly perceive those images which it receives and reflects to us. And therefore sense of itself, as was before intimated, is not a mere passion, but a passive perception of the soul, which hath something of vital energy in it, because it is a cogitation; to which vital energy of the soul those sensible ideas of light, colors, heat and the like, owe all their entity. Much less therefore can intellection be a pure passion. But if intellection

and knowledge were a mere passive perception of the soul from without and nothing but sense, or the result of it, then what reason could be given, why brute animals, that have all the same senses that men have, and some of them more acute, should not have intellection also, and be as capable of logic, mathematics and metaphysics, and have the same notions of morality, of a deity and religion that men have? Wherefore it must of necessity be granted, that besides passion from corporeal things, or the passive perception of sense, there is in the souls of men another more active principle or vis cognoscendarum rerum innata, an innate cognoscitive power, whereby they are enabled to understand or judge of what is received from without by sense. And some, that would otherwise make the soul as naked a thing as is possible, are forced to acknowledge thus much. And hereby they grant all that we contend for and they deny, though considering not in the mean time what they say. For this innate cognoscitive power in the soul, can be nothing else but a power of raising intelligible ideas and conceptions of things from within itself. For it is not possible that any knowledge should be without an objective idea or conception of something known included in it, or that *νόησις*, the intellection, should be in one faculty, and *νόημα*, the conception, in another, one in the intellect, and the other in the fancy. That knowledge should be actively produced from within, and the conception or objective idea passively received from without, that the mind should exert an act of knowledge or intellection without an object, or upon an object without itself, and not comprehended by it, that the idea of the thing known should not be comprehended in the knowledge of it. Whereas, as Aristotle himself hath observed, *Τὸ αὐτὸ ἔστιν ἡ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι·* Actual knowledge is in reality the same with the thing known, or the idea of it, and therefore inseparable from it. It being nothing but the mind's being conscious of some intelligible idea within itself.

4. And therefore, whereas the only objects of sense are individual corporeal things existing without the mind, which the soul perceives by looking out from itself upon that from which it suffers, not actively comprehended within itself. The primary and immediate objects of intellection and knowledge, are not things existing without the mind, but the ideas of the mind itself actively exerted, that is, the intelligible rationes, reasons of things. *Νόησις οὐ τοῦ ἔξω ὥσπερ ἡ αἴσθησις·* The intellection is not of what is without, as sense is.—And *Ὅτι οὐκ ἔξω τοῦ νοῦ τὰ νοητὰ·* The immediate objects of intellection are not without the mind that understands.—They are assertions that Plotinus at large demonstrates. And Aristotle frequently asserts the same, *Ἐπὶ τῶν ἄνευ*

ὕλης τὸ αὐτό ἐστι τὸ νοοῦν καὶ τὸ νοούμενον· ἡ γὰρ ἐπιστήμη ἡ θεωρητικὴ καὶ τὸ ἐπιστητὸν τὸ αὐτό ἐστι· In abstracted things that which understands and that which is understood are the same; for the theoretical science and the scibile, knowable or object of knowledge are all one.—And Ὅλως ὁ νοῦς ὁ κατ' ἐνέργειαν τὰ πράγματα νοῶν· The mind altogether is that which understands things;—these being all but several modifications of intellect. For as hard and soft, hot and cold, and the like corporeal qualities, are but several modifications of matter, so the several objective ideas of the mind in scientifical speculation, are but several modifications of the mind knowing. Wherefore individual things existing without the soul, are but secondary objects of knowledge and intellection, which the mind understands not by looking out from itself as sense doth, but by reflecting inwardly upon itself, and comprehending them under those intelligible ideas or rationes, reasonings, of its own, which it protrudes from within itself; so that the mind or intellect may well be called (though in another sense than Protagoras meant it) τὸ μέτρον πάντων, the measure of all things.

5. For the soul having an innate cognoscitive power universally, (which is nothing but a power of raising objective ideas within itself, and intelligible rationes, reasons, of any thing) it must needs be granted that it hath a potential omniformity in it. Which is not only asserted by the Platonists, that the soul is πάντα νοερῶς, all things intellectually, but also by Aristotle himself: Τὴν ψυχὴν εἶναι τὰ ὄντα πῶς πάντα· That the soul is in a manner all things.—The mind being a kind of notional or representative world, as it were a diaphanous and crystalline sphere, in which the ideas and images of all things existing in the real universe may be reflected or represented. For as the mind of God which is the archetypal intellect, is that whereby he always actually comprehends himself, and his own fecundity, or the extent of his own infinite goodness and power; that is, the possibility of all things; so all created intellects being certain ectypal models, or derivative compendiums of the same; although they have not the actual ideas of all things, much less are the images or sculptures of all the several species of existent things fixed and engraven in a dead manner upon them; yet they have them all virtually and potentially comprehended in that one vis cognitrix, cognoscitive power, of the soul, which is a potential omniformity, whereby it is enabled as occasion serves and outward objects invite, gradually and successively to unfold and display itself in a a vital manner, by framing intelligible ideas or conceptions within itself of whatsoever hath any entity or cogitability. As the spermatic or plastic power doth virtually contain within itself, the forms of all the

several organical parts of animals, and displays them gradually and successively, framing an eye here and an ear there.

6. Now because intellection and knowledge are not passion from without, but an active exertion of the mind from within itself, hence it comes to pass, as Aristotle hath observed, that the mind by knowing that which is σφόδρα νοητὸν, exceedingly intelligible, the most radiant and illustrious truths, is not debilitated thereby or overpowered, as sense is in perceiving that which is σφόδρα αἰσθητὸν, exceedingly sensible, as the brightness of the sun; but contrariwise the more invigorated thereby, and the better enabled to comprehend lesser and smaller truths; because though sense is passive and organical, yet knowledge is inorganical and an active power and strength of the mind, which the more it is exerted, is the more thereby invigorated and enlarged.

From hence likewise it is, as the same Aristotle hath observed, Ἀκριβεστέραν ἐπιστήμην τῆς ἐπιστήμης, τὴν μὴ καθ' ὑποκειμένου τῆς καθ' ὑποκειμένου, οἷον ἀριθμητικὴν τῆς ἁρμονικῆς· That those knowledges which are more abstract and remote from matter, are more accurate, intelligible and demonstrable,—than those which are conversant about concrete and material things, as arithmetic than harmonics, which are numbers concrete with sounds; and so likewise geometry than astronomy, or the mixed mathematics; whereas if all knowledge did arise from corporeal things by way of sense and passion, it must needs be contrariwise true, that the more concrete and sensible things were, the more knowable they would be. Moreover, from hence it is also, as experience tells us, that scientifical knowledge is best acquired by the soul's abstraction from the outward objects of sense, and retiring into itself, that so it may the better attend to its own inward notions and ideas. And therefore it is many times observed, that over-much reading and hearing of other men's discourses, though learned and elaborate, doth not only distract the mind, but also debilitates the intellectual powers, and makes the mind passive and sluggish, by calling it too much outwards. For which cause that wise philosopher Socrates altogether shunned that dictating and dogmatical way of teaching used by the sophisters of that age, and chose rather an aporetical and obstetricious method; because knowledge was not to be poured into the soul like liquor, but rather to be invited and gently drawn forth from it; nor the mind so much to be filled therewith from without, like a vessel, as to be kindled and awakened. Lastly, from hence is that strange parturiency that is often observed in the mind, when it is solicitously set upon the investigation of some truth, whereby it doth endeavor, by ru-

minating and revolving within itself as it were to conceive it within itself, parturire, to bring it forth out of its own womb; by which it is evident, that the mind is naturally conscious of its own active fecundity, and also that it hath a criterion within itself, which will enable it to know when it hath found that which it sought.

7. Wherefore it is evident from what we have declared, that there are two kinds of perceptive cogitations in the soul; the one passive, when the soul perceives by suffering from its body, and the objects without; the other active, when it perceives by exerting its own native vigor from within itself. The passive perceptions of the soul have two several names given unto them; for when the soul, by sympathizing with the body, seems to perceive corporeal things, as present and really existing without it, then they are called αἰσθήματα, sensations. But when the passive affections of the soul are looked upon not as things really existing without the mind, but only as pictures of sensible things in the mind, or more crass or corporeal cogitations, then they are called φαντάσματα, phantasms, or imaginations. But these φαντάσματα and αἰσθήματα, phantasms and sensations, being really the same things, as we said before, both of them being passions or affections in the soul, caused by some local motions in the body, and the difference between them being only accidental, insomuch that φαντάσματα, phantasms, may be changed into αἰσθήματα, sensations, and sometimes also αἰσθήματα, sensations, into φαντάσματα, phantasms, therefore all these passive perceptions of the soul may be called in general, φαντάσματα, phantasms. But the active perceptions which rise from the mind itself without the body, are commonly called νοήματα, conceptions of the mind; and so we have the two species of perceptive cogitations; the one φαντάσματα, phantasms, and the other νοήματα, conceptions of the mind.

8. Now all our perceptive cogitations are not φαντάσματα, phantasms, as many contend, but that there is another species of perceptive cogitations distinct from them, arising from the active vigor of the mind itself, which we therefore call νοήματα, conceptions of the mind, is demonstrably evident from hence; because phantasms are nothing else but sensible ideas, images or pictures of outward objects, such as are caused in the soul by sense; whence it follows, that nothing is φανταστὸν, the object of fancy, but what is also αἰσθητὸν, the object of sense, nothing can be fancied by the soul, but what is perceptible by sense. But there are many objects of our mind, which we can neither see, hear, feel, smell nor taste, and which did never enter into it by any sense; and therefore we can have no sensible pictures or ideas of them,

drawn by the pencil of that inward limner or painter which borrows all his colors from sense, which we call fancy; and if we reflect on our own cogitations of these things, we shall sensibly perceive that they are not fantastical, but noematical. As for example, justice, equity, duty and obligation, cogitation, opinion, intellection, volition, memory, verity, falsity, cause, effect, genus, species, nullity, contingency, possibility, impossibility, and innumerable more such there are that will occur to any one that shall turn over the vocabularies of any language, none of which can have any sensible picture drawn by the pencil of the fancy. And there are many whole propositions likewise, in which there is not any one word or notion that we can have any genuine phantasm of, much less can fancy reach to an apprehension of the necessity of the connexion of the terms. As for example, nihil potest esse et non esse eodem tempore, nothing can be and not be at the same time.—What proper and genuine phantasms can any perceive in his mind either of nihil, nothing, or potest, can, or esse, be, or et, and, or non esse, not be, or eodem, at the same, or tempore, time.

9. Neither was it asserted by Aristotle, as some have taken for granted, that all our perceptive cogitations are phantasms, but contrariwise, that there are *νοήματα*, conceptions of the mind, which are distinct things from *φαντάσματα*, phantasms, only that the latter were always individual companions of the former. This appears from those words of his, [1] *Νοήματα τινὶ δοίσει τοῦ μὴ φαντάσματα εἶναι, ἢ οὐδε ταῦτα φαντάσματα, ἀλλ' οὐκ ἄνευ φαντασμάτων·* The conceptions of the mind somewhat differ from phantasms, they are not phantasms, but neither are they without phantasms.—Where he inclines to this, that the *νοήματα*, conceptions of the mind, are not *φαντάσματα*, phantasms, but that they have phantasms always joined with them. So again afterward he asks, *Εἰ τὸ νοεῖν φαντασία, ἢ μὴ ἄνευ φαντασίας·* Whether intellection be fancy, or rather a different thing from fancy, but such as never goes without it.—Which indeed he affirms in other places, that the mind doth never *νοεῖν*, conceive, without a phantasm. Now this is true of sensible and corporeal things, that we never understand them, but we have also some confused phantasms or other of them in our mind, and yet besides the *φαντάσματα*, the mind exerts *νοήματα*, conceptions, also upon them, or else it could not understand them, phantasms being but imperfect, incomplete, and superficial cogitations, which sometimes go before, and invite or call in the mean while the perceptions of the mind, and sometimes follow and attend upon the *νοήματα*, conceptions

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[1] De Anima, lib. iii. c.

of the mind, as the shadow upon the substance, but never comprehend the thing. And indeed as we ourselves consist of soul and body naturally united together, so are the cogitations that we have of corporeal things usually both noematical and phantasmatical together, the one being as it were the soul, and the other the body of them. For when a geometrician considers a triangle, being about to demonstrate that it hath three angles equal to two right angles, no doubt he will have the phantasmatical picture of some triangle in his mind; and yet notwithstanding he hath also a noematical perception or intellectual idea of it too, as appears from hence, because every express picture of a triangle must of necessity be either obtuseangular or rectangular, or acutangular, but that which in his mind is the subject of this propositition thought on, is the ratio, reason, of a triangle undetermined to any of these species. And the like might be observed also of the word angles in the same proposition. In like manner, whenever we think of a phantasmatical, universal, or universalised phantasm, or a thing which we have no clear intellection of; as for example, of the nature of a rose in general, there is a complication of something noematical, and something phantasmatical together; for φαντάσματα, phantasms, in themselves alone, as well as αἰσθήματα, sensations, are always individual things. And by a rose considered thus universally and phantasmatically, we mean a thing which so affects our sense in respect of figure and color.

10. But as for those other objects of cogitation, which we affirmed before to be in themselves neither αἰσθητά, the objects of sense, nor φανταστά, the objects of fancy, but only νοητά, things understood, and therefore can have no natural and genuine phantasms properly belonging to them; yet it is true, notwithstanding that the fantastic power of the soul, which would never willingly be altogether idle or quite excluded, will busily intend itself here also. And therefore many times, when the intellect or mind above is exercised in abstracted intellections and contemplations, the fancy will at the same time busily employ itself below, in making some kind of apish imitations, counterfeit iconisms, symbolical adumbrations and resemblances of those intellectual cogitations of sensible and corporeal things. And hence it comes to pass, that in speech, metaphors and allegories do so exceedingly please, because they highly gratify this fantastical power of passive and corporeal cogitation in the soul, and seem thereby also something to raise and refresh the mind itself, otherwise lazy and ready to faint and be tired by over-long abstracted cogitations, by taking its old companion the body to go along with it, as it were to rest upon, and by afford-

ing to it certain crass, palpable, and corporeal images, to incorporate those abstracted cogitations in, that it may be able thereby to see those still more silent and subtle notions of its own, sensibly reflected to itself from the corporeal glass of the fancy.

Sometimes also there are other spurious phantasms that do little or nothing symbolize with the noetical cogitations, that yet are arbitrarily or customarily annected to them, merely because the phantastic power would not stand wholly idle and unemployed; so that when the mind thinks of such an intelligible idea, the fancy will presently hold forth such a customary phantasm before it, *ὥσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ εἰδωλοποιοῦντες*, as those that use artificial memory, make certain phantasms at pleasure to signify certain cogitations.

But lastly, rather than the fancy shall quite stand out and do just nothing at all, it will sometimes exercise itself (especially in speech) in raising phantasms of the very sounds and names, by which the notions of the mind are signified respectively. So that it is very true both that there are active *νοήματα*, cogitations of the mind distinct from *φαντάσματα*, phantasms; and such of which there can be no natural and genuine phantasms or sensible pictures; and yet according to Aristotle's opinion, that frequently those *νοήματα*, conceptions of the mind (at least in the vulgar, that are little accustomed to abstracted cogitation) have some kind of spurious and counterfeit, or verbal and nominal phantasms joined with and accompanying of them.

11. As that opinion, that the *νοήματα*, conceptions of the mind and intelligible ideas or rationes, reasons of the mind should be raised out of the *φαντάσματα*, phantasms, by the strange chymistry of intellectus agens, an agent intelligence; this as it is founded on a mistake of Aristotle's meaning ,who never dreamed of any such a chimerical intellectus agens, agent intelligence, as appears from the Greek interpreters that best understod him; so it is very like to that other opinion called peripatetical, that asserts the eduction of immaterial forms out of the power of matter; and as both of them arise from the same sottishness of mind that would make stupid and senseless matter the original source of all things; so there is the same impossibility in both, that perfection should be raised out of imperfection, and that vigour, activity and awakened energy, should ascend and emerge out of dull, sluggish, and drowsy passion. But indeed this opinion attributes as much activity to the mind, if at least the agent intelligence be a part of it as ours doth; as he would attribute as much activity to the sun, that should say the sun had a power of educing light out of night or the dark air, as he that should say the sun had a power of exerting light out of his own body.

The former being but an improper way of expressing the same thing, which is properly signified in the latter way.

But that other opinion, that asserts that the abstract and universal rationes, reasons, of things, as distinct from phantasms, are nothing else but mere names without any signification, is so ridiculously false, that it deserves no confutation at all.

CHAP. II.

1. That there are some ideas of the mind which were not stamped or imprinted upon it from the sensible objects without, and therefore must needs arise from the innate vigour and activity of the mind itself, is evident, in that there are, first, ideas of such things as neither are affections of bodies, nor could be imprinted or conveyed by any local motions, nor can be pictured at all by the fancy in any sensible colours; such are the ideas of wisdom, folly, prudence, imprudence, knowledge, ignorance, verity, falsity, virtue, vice, honesty, dishonesty, justice, injustice, volition, cogitation, nay, of sense itself, which is a species of cogitation, and which is not perceptible by any sense; and many other such like notions as include something of cogitation in them, or refer to cogitative beings only; which ideas must needs spring from the active power and innate fecundity of the mind itself, because the corporeal objects of sense can imprint no such things upon it. Secondly, in that there are many relative notions and ideas, attributed as well to corporeal as incorporeal things that proceed wholly from the activity of the mind comparing one thing with another. Such as are cause, effect, means, end, order, proportion, similitude, dissimilitude, equality, inequality, aptitude, inaptitude, symmetry, asymmetry, whole and part, genus and species, and the like.

2. But that which imposes upon men's judgments here, so as to make them think, that these are all passive impressions made upon the soul by the objects of sense, is nothing else but this; because the notions both of those relative ideas, and also of those other immaterial things, (as virtue, wisdom, the soul, God) are most commonly excited and awakened occasionally from the appulse of outward objects knocking at the doors of our senses. And these men not distinguishing betwixt the outward occasion or invitation of those cogitations, and the immediate active or productive cause of them, impute them therefore

all alike, as well these intelligible as the other sensible ideas, or phantasms, to the efficiency or activity of the outward objects upon us. Wherefore that we may the better understand how far the passion of sense reaches, and where the activity of the mind begins, we will compare these three things together;—first, a mirror, looking-glass, or crystal globe; secondly, a living eye, that is, a seeing or perceptive mirror or looking-glass; thirdly, a mind or intellect superadded to this living eye or seeing mirror.

3. First therefore, when the same objects are equally exposed or held before a crystal globe or looking-glass, and a living eye; there are all the same impressions made upon the crystal globe, that there are upon the living eye; which appears from hence, because the eye looking upon the crystal globe or mirror, will see all the same images reflected to itself from thence, that it perceived before immediately from the objects themselves. The motion and pressure of the ethereal globuli, globulous particles, in which the nature of light is conceived to consist, from every opaque object, bearing alike every way upon that which resists, and therefore as much upon the mirror as the eye. So that there is every jot as much corporeal passion in the mirror or crystal globe, as in the glassy part of the living eye; for, as we said before, the corporeal part of the eye is indeed nothing else but a mirror or looking-glass. And yet notwithstanding, the mirror or crystal globe doth not see or perceive any thing as the eye doth. From whence we learn, first, that things are never perceived merely by their own force and activity upon the percipient, but by the innate force, power and ability of that which perceives. And therefore, secondly, that sense itself is not a mere corporeal passion; but a perception of the bodily passions proceeding from some power and ability supposed to reside in a sensitive soul, vitally united to that respective body. Which perception, though it have something of energy in it, as being a cogitation; yet it is rightly called a passion of the soul, because it is not a clear intellective or cognoscitive perception of the motions of the body, but a passive or sympathetical perception only. Whereby, according to nature's instinct, it hath several seemings or appearances begotten in it of those resisting objects without it at a distance, in respect of color, magnitude, figure and local motion; by reason of the difference of those rectilinear motions communicated from them by the intermediate globuli, globulous particles, and impressed upon the optic nerves.

Wherefore the living eye immediately perceives nothing but these corporeal passions which are made equally upon it, and the mirror or crystal globe alike, by the motion of that intermediate or subtle body

which causeth light; which corporeal passions being also passively perceived by that vital principle called the sensitive power residing in the eye, all passion from the outward object there ceaseth, and goes no further. But that power of the soul that next followeth, which is the third thing that we mentioned before, the intellect, begins immediately to exert and display its activity upon the object passively perceived by sense.

4. But the better to illustrate the business in hand, let us again suppose some ingenious piece of mechanism, or artificial automaton; as for example, an horologe or watch, at once held before the mirror or crystal globe, as also exposed to the particular view of the living or sentient eye, both in the outside and interior fabric of it; so that as every part in it is reflected from the mirror, so it may be consciously perceived also by the sentient eye, in a particular successive view. Now the sentient eye will be conscious or perceptive of nothing in all this, but only its being variously affected, from different colors, figures, protuberancies, cavities, sculptures, local motions, one after another, all the same things which were impressed on the crystal globe or mirror, and reflected from it, there being no difference at all betwixt the one and the other, but that the eye was conscious or perceptive of what it suffered, but the mirror not. But now the mind or intellect being superadded to this sentient eye, and exerting its active and more comprehensive power upon all that which was reflected from the mirror, and passively perceived by the sentient eye, as it doth actually and intellectually comprehend the same things over again, which sense had perceived before in another manner (of which we must speak afterward) so it proceeds further, and compares all the several parts of this ingenious machine or self-mover one with another, taking notice, first, of the spring, as the original and cause of all the motion in it; of the chain or string, by the mediation of which that motion is communicated to the fusee; of the balance that reciprocating moderates the motion of the several wheels, some greater, some lesser, propagating the motion from one to another; of the horary circle divided into equal parts; and, lastly, of the index, moving round about the circle, through equal space in equal time, all these in their several scheses, relations, to one another and the whole. Whereupon the intellect, besides figure, color, magnitude and motions, raises and excites within itself the intelligible ideas of cause, effect, means, end, priority and posteriority, equality and inequality, order and proportion, symmetry and asymmetry, aptitude and inaptitude, sign and thing signified, whole and part, in a manner all the logical and relative notions that are. Whereas the sentient eye

by which this whole mechanism was represented to the intellect, perceived none of all these things; neither cause nor effect, nor equality nor irregularity, nor order nor proportions, nor symmetry nor asymmetry, nor sign nor thing signified, nor whole nor part; since there is no color nor figure in any of these things. And if the sentient eye could dispute with the mind or intellect, it would confidently avow and maintain, that there were no such entities as those in this automaton, self-moving machine, and that the understanding was abused and deceived in those apprehensions. Since all that was impressed from the object was, by the sentient eye, faithfully transmitted to it, and the intellect received all its intelligence or information from it. And to make its cause good, sense would appeal to the mirror or crystal globe standing by, in which there were no images of any of those invisible ideas or logical notions reflected. Wherefore since sense doth freely conceive and ingenuously own, that none of these ideas are passively and phantasmatically stamped upon it from the objects without; be they what they will, real or not real, certain it is that they are the objects of the intellect, and they must of necessity be raised in it by its own innate vigor and activity.

5. Indeed though it should be granted, that the scheses, relations, of cause and effect, whole and parts, and the like, were mere notions of the mind and modes of conceiving in us, that only signify what things are relatively to intellect; yet it would not follow from hence, that they had no reality at all, but were absolute nonentities; because intellect being a real thing, and that which indeed hath more of entity in it than matter or body, the modifications of intellect must needs be as real things as the modifications of matter; and therefore cause and effect, whole and part, symmetry and asymmetry, and all the other logical notions would have as much reality in them as hard and soft, moist and dry, hot and cold, which, though but modifications of matter, are looked upon as very real things; and such intellectuals as were relative to intellect be as real, as those sensible phantasms which are relative to sense. But this must not be granted, that the modes of conception in the understanding, (where all truth is) are disagreeable to the reality of the things conceived by them; and so being unconformable, are therefore false. Wherefore that these scheses, relations, are not (though sense doth not perceive them) mere notions or figments of the mind, without any fundamental reality in the things themselves without us, corresponding to them, appears from hence, because art and wisdom are most real things, which beget real effects of the greatest moment and consequence in nature and human life of any thing; and yet

they are conversant about nothing else but only the relations, proportions, aptitudes of things to one another, and to certain ends. Now if these were all mere figments, and nothing but logical notions or entia rationis, beings of reason, then there could be no such realities produced out of them. Nay, then art and wisdom themselves must needs be figments and fancies, and likewise it would be indifferent whatever a man did in order to any end or effect; and all men (as Protagoras held) would be really alike wise and skilful. Then there would be no other extrinsical causality of any effect but that of efficiency, force or power; which, in corporeal things, is nothing else but local motion. And no such thing as the causality of skill and art (that which is commonly called the exemplary cause) distinct from force, power, and blind impetuosity. Nay, then virtue, justice, honesty, must of necessity be figments also, because moral good and evil are schetical and relative things; and which is more yet, external convenience and inconvenience, utility and inutility themselves, be nothing else but fancies also.

6. But though the verdict and testimony of sense ought to be admitted as authentic in this particular, as to what is or is not passively impressed upon us from without, because it is not possible that any thing should be impressed upon the intellect from sensible things, but it must needs pass through the medium of sense, and so be transmitted thereby unto the understanding, which cannot be, unless sense be conscious thereof; yet notwithstanding, sense is not at all to be heard, as to the reality or non reality of these relative ideas, it being no competent judge in that controversy. Because since the knowledge of things doth not arise from the activity, energy and radiation of the objects without upon us, passively received by sense, but from the active and comprehensive energy or activity of the mind itself, as we have already observed, In cognoscendo cuncta, sua potius facultate quam rerum quæ cognoscuntur uti. Cum enim omne judicium judicantis actus existat, necesse est ut suam quisque operam non ex aliena, sed ex propria facultate perficiat. That in knowing all things, it rather useth its own power, than that of the things which are known. For since all judgment is the act of him that judgeth, it must needs be that every one perform his own work, not by the power of another, but by his own faculty,—as the afore-commended Boetius expresseth it. We ought not to conclude that those relative ideas are therefore mere figments or modes of conceiving in us, because sense is not conscious of any such things passively impressed upon it from without, and because that lower and narrow faculty comprehends them not; but rather acquiesce in the

sentiment of that larger and more comprehensive faculty the intellect, that judges of things by exerting its own active power upon them.

7. Wherefore, if we well consider it, we shall find that not only the beauty and pulchritude, but also the strength and ability of natural and corporeal things themselves, depend upon these relations and proportions of one thing to another. For what is pulchritude in visible objects, or harmony in sounds, but the proportion, symmetry and commensuration of figures and sounds to one another, whereby infinity is measured and determined, and multiplicity and variety vanquished and triumphed over by unity, and by that means they become grateful and pleasing objects to the ear and eye of intellectual auditors and spectators, there being as it were certain ludicrous irritations and symbolical resemblances of art and wisdom, nay, and virtue too (as we shall show afterward) that is, of intellectuality in general appearing in them, whereby the mind beholds as it were its own face and image reflected to itself from a corporeal glass.

But because many will be ready to say here, that beauty is nothing but a fancy neither, and therefore cannot argue any reality in these schetical things; I add that even the strength and ability of corporeal things themselves depends upon the mutual scheses, relations, and proportions of one thing to another. And this all men will be sensible of as something. And the truth hereof evidently appears from the mechanical powers. Nay, the health and strength of the body of animals, arises from the configuration of the organical parts, and the fit contemporation of humors and the insensible parts with one another; so that if this harmonical crasis, temperature, of the whole body be disturbed and put out of tune, weakness and languor, languishing, will immediately seize upon it. Nay, doth not all the strength, as well as the comeliness and beauty of an army, consist in order? And therefore if we should suppose some subtle sophister, and popular orator, sent from the quarters of an enemy into a vast, numerous and puissant army, that should insinuate into the common soldiers so far, as generally to persuade them, that order was nothing but a mere fancy or logical notion; a thing craftily devised by their commanders, merely to keep them in subjection, that they might the better tyrannize over them, and rule them as they please; insomuch that they should all at length altogether neglect their ranks and files, and put themselves wholly into disorder and confusion, and in this fashion prepare themselves to encounter their approaching enemy, would they not hereby be betrayed to certain ruin, though the enemy should be but a small handful of men, but well ordered and well commanded? For order is that

which makes things junctis viribus, with united forces, to conspire all to one end, whereby the whole hath the force and ability of all the several particular strengths conjoined and united into one.

8. Therefore I say, in the next place, returning to our former instance of an automaton, or horologe, that though those several relative ideas of cause, effect, symmetry, proportion, order, whole and part, and the like, considered formally as νοήματα, conceptions of the mind, be only in the intellect itself (as the ideas and conceptions of all other things likewise are;) yet notwithstanding the intellect doth not forge or falsify any thing in apprehending of them, in that material automaton, self-mover, represented to it by sense, because all the several scheses, relations, are fundamentally and really in the same, though they could not be stamped upon sense materially, and received passively from it. And therefore that the true nature, formal ratio, reason, essence and idea of this automaton, self-mover, watch or horologe, is really compounded and made up of those several scheses, relations, as ingredients into it, so that it cannot possibly be understood without them; though sense could not reach to the comprehension of any one of them, much less of this whole logical system or compages, collection of them. It being impossible that the nature of automaton, a self-mover, horologe or watch, should be otherwise understood than by the comprehension of these relative ideas; and by such a logical, unitive, comprehensive power and activity, as can frame out of them one idea of the whole. For an horologe or watch is not mere silver or gold, brass and steel, any way jumbled, mingled or confounded together, but it is such an apt and proportionable disposition of certain quantities of those several materials into several parts of such certain figures, contemperated together, as may harmoniously conspire to make up one equal and uniform motion, which running as it were parallel with the motion of time, and passing round the horary circle, and being measured in that horary circle, may also measure out and distinguish the quantity of that silent and successive flux, which, like a still and deep river, carries down all things along with it indiscernibly, and without any noise; and which, in its progressive motion, treads so lightly and softly, that it leaves no traces, prints or footsteps at all behind it.

9. Wherefore the eye of sense, though it be fixed never so much upon the material outside of this automaton, self-mover, yet it never comprehends the formal nature of it within itself, as it is totum, a whole, made up of several parts, united not so much by corporeal contact or continuity, as by their relative conspiration to one certain end. Sense being like one of those narrow telescopes, by which the eye

looking upon the moon, can never view it all at once, and see the site and configuration of all the several mountains and valleys, and seas in it, and have one comprehensive idea of the whole; but taking it in the piecemeal part after part, leaves the intelligent spectator afterwards to compile and make up one entire draught or map of stenography out of all those several particular or partial views.

So that if we will speak properly, we cannot say that the eye sees any machina, machine, or automaton, self-mover, for it is but variously affected from the material part of it, perceiving several passions in itself from the several colors and figures of it, it being so far from comprehending the formal ratio, reason, of it, as it is a totum, whole, made up of several parts, according to several scheses, relations, and proportions contributing thereto, that it cannot reach to any one relative idea, neither doth bare fancy go any further than sense. Or else the difference between intellect and sense may be resembled by the difference betwixt the sense of sight and touch. For touch groping, perceives but as it were a point at once, the eye comprehends the whole superficies. Sense sees particular things absolutely, intellect compares them according to those relations they have to one another, has a comprehensive idea of a totum, whole, made up of several parts as one thing. And therefore the form, ratio, reason, or intelligible idea of an automaton, self-mover, or horologe, was never stamped or impressed upon the soul from without, but upon occasion of the sensible idea excited and exerted from the inward active and comprehensive power of the intellect itself.

10. There are many other such ideas of the mind, of certain totums, wholes made up of several corporeal parts, which, though sometimes locally discontinued, yet are joined together by scheses, relations, and habitudes to one another (founded in some actions of them, as they are cogitative beings) and by order all conspiring into one thing; which, though they are altogether imperceptible by sense, and therefore were never stamped or impressed upon the mind from the objects without; yet, notwithstanding, are not mere figments or entia rationis, beings of reason, but things of the greatest reality, founded in certain actions or thinking and cogitative beings; which are altogether imperceptible by sense, and therefore could not possibly be outwardly stamped upon the mind; as for example, a polity or commonwealth, called an artificial man, which is a company of many united together by consent or contract under one government, to be regulated by some certain laws as it were by one will for the good of the whole; where, though the eye may see the particular persons, (or at least their out-

sides) that are the respective members thereof, yet it can neither see the bond which unites them together, which is nothing but relation, nor comprehend the totum, whole, that is made up of them, that is, a polity or commonwealth, according to the formal nature of it, which is an idea that proceeds merely from the unitive power and activity of the mind itself.

In a word, all the ideas of things called artificial or mechanical, contain something in them that never came from sense, nor was ever stamped upon the soul from the objects without, which, though it be not merely notional or imaginary, but really belongs to the nature of that thing, yet it is no otherwise than intellectually comprehended. As for example, an house or palace is not only stone, brick, mortar, timber, iron, glass, heaped together; but the very essence and formal ratio, reason, of it is made up of relative or schetical notions, it being a certain disposition of those several materials into a totum, whole, or compages, collection, consisting of several parts, rooms, stairs, passages, doors, chimnies, windows, convenient for habitation, and fit for the several uses of men; in which there is the logic of whole and parts, order, proportion, symmetry, aptitude, concinnity, all complicated with wood, stone, iron and glass, as it were informing and adorning the rude and confused mass of matter, and making it both beautiful and serviceable. And therefore for this cause, no man that is in his wits will say, that a stately and royal palace hath therefore less reality, entity, and substantiality in it, than an heap of rubbish confusedly cast together; because, forsooth, the idea of it partly consists of logical notions, which are thought to be mere imaginary things; whereas the totum, whole, is all solid matter without this notional form. For this logical form, which is the passive stamp or print of intellectuality in it, the first archetypes contained in the idea or skill of the architect, and thence introduced into the rude matter, successively with much pains and labor, is the only thing that distinguishes it from mere dirt and rubbish, and gives it the essence of an house or palace. And it hath therefore the more of entity in it, because it partakes of art or intellectuality. But the eye or sense of a brute, though it have as much passively impressed upon it from without, as the soul of a man hath, when it looks upon the most royal and magnificent palace, if it should see all the inside also as well as the outside, could not comprehend from thence the formal idea and nature of an house or palace, which nothing but an active intellectual principle can reach unto.

11. Neither is this true of such things only as are commonly called artificial, but also of natural compounded things, such as plants and

animals are. And indeed if we consider things philosophically, we shall not find any such essential difference as is commonly supposed, betwixt things called artificial and natural. For there is a nature in all artificial things, and again, an artifice in all compounded natural things. Plants and animals being nothing else but artificial mechanisms, the latter of which especially are contrived with infinitely more wit, variety and curiosity than any mechanisms or automata, self-movers, that were ever yet produced by human art. Wherefore the true form of an animal, if we attend only to the mechanism of the body (for we must acknowledge something else not only in men but also in brutes, if they have any cogitation besides mechanism, which is a substance of another nature, or a cogitative being united to the body) is an idea that includes many relative and logical notions in it, and therefore could never be stamped upon the soul by sense. For sense only takes notice of several colors and figures either in the outside or the inside of any animals, but doth not sum them up into one totum, whole. But the idea of it, as collected into one mechanical automaton, self-mover, consisting of many organical parts fitly proportioned together, and all harmoniously conspiring to one end, to make it every way a fit habitation for a cogitative substance to reside in, in respect of nutrition, local motion, sense, and all other functions of life. Such an idea, I say, that hath something of logic in it, is only conceivable by the unitive, active and comprehensive power of the intellect.

The same is to be affirmed of that huge and vast automaton, which some will have to be an animal likewise, the visible world or material universe, commonly called κόσμος, cosmos or mundus, the world, from the beauty of it. Whether we mean thereby that one single vortex, to which our planetary earth belongs, or a system of as many vortices, as we see fixed stars in the heavens, their central suns and circumferential planets moving round about them respectively. Now sense looking round about, and making many particular views, sees now one fixed star, and then another; now the moon, then the sun; here a mountain, there a valley; at one time a river, at another a sea, particular vegetables and animals one after another. But it cannot sum up or unite all together, nor rise to any comprehensive idea of the whole at once, as it is one or many mechanical automatons, self-movers, most curiously and artificially framed of innumerable parts; in which there are all manner of logical scheses, relations, possible offered to the mind, but all so fitly proportioned with such admirable symmetries and correspondencies in respect of one another and the whole, that they perfectly conspire into one most orderly and harmonious form.

Hitherto therefore we have seen, that the relative ideas that we have in our mind, are not passions impressed upon the soul from the objects without; but arise from the innate activity of the mind itself; and therefore because the essences or ideas of all compounded corporeal things themselves, whether artificial or natural; that is, whether made by the artifice of men or nature, always necessarily include these logical scheses, relations, in them, we have demonstratively proved from thence, that no corporeal compounded thing whatsoever is understood by sense, nor the idea of it passively stamped upon the mind, from the objects without, but comprehended only by the large unitive power of the intellect, and exerted from the innate activity thereof.

12. But the case is still clearer concerning those other ideas before mentioned, of the several modes of cogitative beings, or such as involve or include some relation to them; that these are not by the passive impresses from the outward objects by sense; although they are often occasionally invited and drawn forth by them. Which we shall illustrate by the former instance of an artificial automaton, self-mover, exhibited first to the view of sense, and afterward actively comprehended by the understanding. After the mind hath framed a clear idea of this automaton, self-mover, within itself, the end or design whereof is to measure the equal motion either of the sun and heavens, or earth, (according to different astronomical hypotheses) by the equal motions of this automaton, self-mover, and so to distinguish or mark out to us the quantities of that silent and undiscerned flux of time; and when it hath considered how aptly conducible every part of this mechanism is to that design, and how there is neither the least redundancy nor deficiency in any thing in order thereunto, and of the beauty and elegancy of the fabric, making a further and more inward reflection upon the same, it plainly perceives this accurate contrivance to be but a passive print or stamp of some active and living art and skill upon it: wherefore the ideas of art and skill are upon this occasion naturally exerted from it; neither doth it rest in considering of art and skill abstractedly, but because these are modes of an existent cogitative being, it thinks presently of some particular intelligent being, the artificer or author of this curious fabric, and looking further into it, finds his name also engraven in legible characters upon the same, whereupon he forthwith pronounces the sound of it. Whereas the living eye, that is, sense alone in its antecedent view, as it could not espy any logical scheses, relations, or notions there, so neither can it perceive any ideas of art or skill in it, they having neither figure nor color in them, nor of author and artificer, any more than it could see the sound of the artificer's name in the engraven sculptures or characters of it; for the

eye could see no more than was represented in or reflected from the crystal globe or mirror. Wherefore the ideas of art and skill, author and artificer were not passively imprinted upon the intellect from the material automaton, self-mover, but only occasionally invited from the mind itself, as the figures of the engraven letters did not passively impress the sound of the artificer's name upon him, but only occasion him to exert it from his own activity.

13. Just in the same manner it happens many times in the contemplation of that great automaton, self-mover, of the material universe, which is the Θεοῦ τέχνασμα, artifice of God, the artifice of the best mechanist, though there be no more passively impressed upon us from it, than there is upon the diaphanous air, or liquid ether contiguous to all solid bodies by local motion, of which only sensitive beings have a conscious perception; yet there is a wonderful scene of various thoughts and motions raised in the mind thereupon, which are only occasionally invited by those stamps and impressions made from the material fabric, and its various furniture without, but owe their true original and efficiency to nothing else but the innate vigor and activity of the mind itself. Some of which we have already instanced in, the ideas of those relative scheses, considerations of corporeal things themselves and their parts to one another; by means of which the intellect rises up to that comprehensive view of the natures of particular corporeal things, and the universal mundane system within itself all at once; which sense perceiving only by little and little, and taking in as it were point after point, cannot sum up its partial perceptions into the entire idea of any one totum, whole. But the intellect doth not rest here, but upon occasion of those corporeal things thus comprehended in themselves, naturally rises higher to the framing and exciting of certain ideas from within itself, of other things not existing in those sensible objects, but absolutely incorporeal. For being ravished with the contemplation of this admirable mechanism and artificial contrivance of the material universe, forthwith it naturally conceives it to be nothing else but the passive stamp, print and signature of some living art and wisdom; as the pattern, archetype and seal of it, and so excites from within itself an idea of that Divine art and wisdom. Nay, considering further, how all things in this great mundane machine or animal (as the ancients would have it) are contrived, not only for the beauty of the whole, but also for the good of every part in it, that is endued with life and sense, it exerts another idea, viz. of goodness and benignity from within itself, besides that of art and wisdom, as the queen regent and empress of art, whereby art is employed, regulated and determined; now both these

things, whereof the first is art, wisdom and knowledge; the second, goodness, benignity and morality, being looked upon as modes of some intellectual being or mind in which they exist, it from hence presently makes up an idea of God, as the author or architect of this great and boundless machine; A mind infinitely good and wise; and so as it were resounds and re-echoes back the great Creator's name, which from those visible characters impressed upon the material universe, had pierced loudly into its ears, but in such an indiscernible manner, that sense listening never so attentively, could not perceive the least murmur, or whisper of it. And this is the most natural scale by which the intellectual mind in the contemplation of corporeal things ascends to God; from the passive prints and signatures of that one art and wisdom that appears in the universe, by taking notice from thence of the exemplary or archetypal cause, one infinite and eternal mind setting his seal upon all. For as he that hears a consort of musicians playing a lesson, consisting of six or eight several parts, all conspiring to make up one harmony; will immediately conclude, that there was some other cause of that harmony besides those several particular efficients, that struck the several instruments; for every one of them could be but a cause of his own part which he played: but the unity of the whole harmony, into which all the several parts conspire, must needs proceed from the art and musical skill of some one mind, the exemplary and archetypal cause of that vocal harmony, which was but a passive print or stamp of it: so though the atheist might possibly persuade himself, that every particular creature was the first author or efficient of that part which it played in the universe, by a certain innate power of its own; yet all the parts of the mundane system conspiring into one perfect harmony, there must of necessity be some one universal mind, the archetypal and exemplary cause thereof containing the plot of the whole mundane music, as one entire thing, made up of so many several parts within himself.

14. But that oftentimes there is more taken notice of and perceived by the mind, both in the sensible objects themselves, and by occasion of them, than was impressed from them, or passively received by sense; which therefore must needs proceed from some inward active principle in that which perceives, I shall make it further appear by some other instances.

For, first, let a brute and a man at the same time be made spectators of one and the same artificial statue, picture or landscape; here the brute will passively receive all that is impressed from the outward object upon sense by local motion, as well as the man, all the several

colors and figures of it: And yet the man will presently perceive something in this statue or picture, which the brute takes no notice of at all, viz: beauty and pulchritude, and symmetry, besides the liveliness of the effigies and portraiture. The eye of the brute being every jot as good a glass or mirror, and perhaps endued with a more perspicacious sense or power of passive perception, than that of a man.

Or again, let both a man and a brute at the same time hear the same musical airs, the brute will only be sensible of noise and sounds; but the man will also perceive harmony in them, and be very much delighted with it; nay, even enthusiastically transported by it. Wherefore the brute perceiving all the sounds, as well as the man, but nothing of the harmony, the difference must needs arise from some inward active principle or anticipation in the man, which the brute hath not.

And indeed the reason is the same both in visibles and audibles; for the sense of a man, by reason of its vicinity and neighborhood to reason and intellectuality, lodged in the same soul with it, must needs be colored with some tincture of it; or have some passive impresses of of the same upon it: and therefore when it finds or meets with insensible objects any foot-steps or resemblances thereof, any thing that hath cognation with intellectuality; as proportion, symmetry and order have, being the passive stamps and impresses of art and skill (which are intellectual things) upon matter, it must needs be highly gratified with the same. But the soul of a brute having no intellectual anticipations in it, but barely suffering from the corporeal objects without, can have no sense of any thing but what their activity impresseth upon it.

Nay, further, the man will also espy some symbolical resemblances of morality, of virtue and vice in the variously proportioned sounds and airs; for there are *Ἠθικαί* ethical (as Aristotle hath observed) as well as *ἐνθουσιαστικαί ἁρμονίαι*, enthusiastical harmonies, as the physiognomists in like manner observe signatures of morality in the countenances of men and their pictures, which it is yet less possible that a brute should be sensible of; these differences arising, not from the absolute nature of the objects without, or their bare impression which they make; but the different analogy which they have to some inward and active anticipations which they meet withal in the percipient. For the man hath certain moral anticipations and signatures stamped inwardly upon his soul, which makes him presently to take notice of whatsoever symbolizes with it in corporeal things; but the brute hath none.

15. And this will still further appear, if we again compare the judgment of some excellent artists in painting and music with that of an

ordinary vulgar person, that hath not any acquired skill in either faculty. For the skilful and expert limner will observe many elegancies and curiosities of art, and be highly pleased with several strokes and shadows in a picture, where a common eye can discern nothing at all; and a musical artist hearing a consort of exact musicians playing some excellent composure of many parts, will be exceedingly ravished with many harmonical airs and touches, that a vulgar ear will be utterly insensible of. Nay, such an one perhaps would be more pleased with the streperous noise of a single fiddle, or the rustical music of the country-bagpipes, or the dull humming of a jew's trump, than the fullest and most exquisitely composed harmony.

And the reason is the same with what was before suggested, because the artists of either kind have many inward anticipations of skill and art in their minds; which being awakened by those passive impressions of the same skill or art in the outward objects that strike upon their senses, there arises immediately an inward grateful sense and sympathy from the correspondence and analogy that is betwixt them; art and skill in the mind of the musical hearer, finding *Συγγενὲς τί*, something akin to itself in those harmonious airs, some foot-steps and resemblances of itself gratefully closing with them. Of which vital sympathy, there is vulgarily thought to be some resemblance in nature; when, upon the striking of a string in one viol, another string, that is in unison to a distant viol, will dance and leap; and that not from any mechanical cause (as some conceive) passively only, but from a vital and active principle in nature, which is affected with concord and harmony. Now there is yet a pulchritude of another kind; a more interior symmetry and harmony in the relations, proportions, aptitudes and correspondences of things to one another in the great mundane system, or vital machine of the universe, which is all musically and harmonically composed; for which cause the ancients made Pan, that is, nature to play upon an harp; but sense, which only passively perceives particular outward objects, doth here, like the brute, hear nothing but mere noise and sound and clatter, but no music or harmony at all; having no active principle and anticipation within itself to comprehend it by, and correspond or vitally sympathize with it; whereas the mind of a rational and intellectual being will be ravished and enthusiastically transported in the contemplation of it; and, of its own accord, dance to this pipe of Pan, nature's intellectual music and harmony.

16. But I shall yet further illustrate this business, that the mind

may actively comprehend more in the outward objects of sense, and by occasion of them, than is passively received and impressed from them, by another instance. Suppose a learned written or printed volume, held before the eye of a brute-creature or illiterate person; either of them will passively receive all that is impressed upon sense from those delineations; to whom there will be nothing but several scrawls or lines of ink drawn upon white paper. But if a man that hath inward anticipations of learning in him, look upon them, he will immediately have another comprehension of them than that of sense, and a strange scene of thoughts presently represented to his mind from them; he will see heaven, earth, sun, moon and stars, comets, meteors, elements, in those inky delineations; he will read profound theorems of philosophy, geometry, astronomy in them; learn a great deal of new knowledge from them that he never understood before, and thereby justly admire the wisdom of the composer of them: not that all this was passively stamped upon his soul by sense from those characters; for sense, as I said before, can perceive nothing here but inky scrawls, and the intelligent reader will many times correct his copy, finding erratas in it; but because his mind was before furnished with certain inward anticipations, that such characters signify the elements of certain sounds, those sounds, certain notions or cogitations of the mind; and because he hath an active power of exciting any such cogitations with himself, he reads in those sensible delineations, the passive stamps or prints of another man's wisdom or knowledge upon them, and also learns knowledge and instruction from them, not as infused into his mind from those sensible characters, but by reason of those hints and significations thereby proposed to it, accidentally kindled, awakened and excited in it: for all but the phantasms of black inky strokes and figures, arises from the inward activity of his own mind: wherefore this instance in itself shews, how the activity of the mind may comprehend more in and from sensible objects, than is passively imprinted by them upon sense.

But now, in the room of this artificial book in volumes, let us substitute the book of nature, the whole visible and material universe, printed all over with the passive characters and impressions of divine wisdom and goodness, but legible only to an intellectual eye; for to the sense both of man and brute, there appears nothing else in it but as in the other, so many inky scrawls, i. e. nothing but figures and colors; but the mind or intellect, which hath an inward and active participation of the same Divine Wisdom that made it; and being printed all over with the same archetypal seal, upon occasion of those sensible delineations represented to it, and taking notice of whatsoever is cognate

to it, exerting its own inward activity from thence, will not have only a wonderful scene and large prospect of other thoughts laid open before it, and variety of knowledge, logical, mathematical, metaphysical, moral, displayed; but also clearly read the divine wisdom and goodness, in every page of this great volume, as it were written in large and legible characters.

BOOK IV.

CHAP. III.

1. We have hitherto showed, that there are many ideas of the mind, which though the cogitations of them be often occasionally invited from the motion or appulse of sensible objects without made upon our bodies; yet notwithstanding the ideas themselves could not possibly be stamped or impressed upon the soul from them, because sense takes no cognizance at all of any such things in those corporeal objects, and therefore they must needs arise from the innate vigour and activity of the mind itself. Such as are, first the relative ideas of the several scheses or respects which are betwixt corporeal things themselves compared with one another. Which relative ideas being not comprehended by sense, and yet notwithstanding, the natures of all compounded corporeal things, whether artificial or natural, that is, whether made by the artifice of men or nature, consisting of them, we have demonstratively proved from thence, that the natures of no compounded corporeal things can possibly be known or comprehended by sense. And again, the ideas of cogitative beings, and the several modes of them, together with all such notions as involve some respect or relation to them. For although these also be often occasionally invited and elicited by the objects of sense, when the mind, in the contemplation of them by its own active strength, perceives the signatures of art, counsels, contrivance, wisdom, nay, and goodness also, (all which are modes of cogitative beings) printed upon them; yet they cannot owe their being or efficiency to the activity of those outward objects, but merely to the activity of the mind itself.

I should now proceed to show, that even those simple corporeal things themselves, which by sense we have a passive perception of, in individual bodies without us, are also known and understood by the active power of the mind exerting its own intelligible ideas upon them.

2. That sensation is not knowledge of those corporeal things that we sensibly perceive, we have before largely showed; and indeed it sufficiently appears from hence, because upon the seeing of light and

colors, though never so clearly, the feeling of heat and cold smartly, the hearing of loud sounds and noises, we naturally inquire further, what this light and colors, heat and cold, and sounds are, which is an undoubted acknowledgement that we have not a clear and satisfactory comprehension of those things which make so strong a stroke and impression upon our senses; and therefore the mind desires to master and conquer them by its own active strength and power, and to comprehend them by some ideas of its own, which are not foreign, but native, domestic and intrinsical to it.

Now if sense itself be not knowledge, much less can any secondary or derivative result from sense be knowledge; for this would be a more obscure, shadowy and evanid thing than sense itself is. As when the image of a man's face, received in a mirror or looking-glass, is reflected from thence into a second mirror, and so forward into a third; still the further it goes, the more obscure, confused and imperfect it grows, till at last it becomes altogether imperceptible. Or as in the circlings and undulations of water, caused by the falling of a stone into it, that are successively propagated from one to another; the further and wider they go, the waves are still the less, slower and weaker, till at length they become quite undiscernible. Or as a secondary echo, that is, the echo of an echo, falls as much short of the primary echo in proportion, as that doth of the original voice. Or, lastly, if we could suppose a shadow to cast a shadow, this secondary shadow, or projection of a shadow, would fall as much short of the primary shadow, as that did of the substance itself. So if the knowledge of corporeal things were but a secondary and derivative result from sense, (though it cannot be conceived that the passion of sense should ray upon the intellect, so as to beget a secondary passion there, any more than one shadow should cast another) then knowledge would be much a weaker perception of them than sense itself is, and nothing but as it were the secondary reflection of an image, or the remote circlings and undulations of the fluid water, or the mere echo of the echo of an original voice: or, lastly, nothing but the shadow of the shadow of a substance. Whereas it is far more real, substantial and satisfactory, more penetrative and comprehensive perception than sense is, reaching to the very inward essence of the things perceived. And therefore it must of necessity proceed from the active power of the mind itself, exerting its own intelligible ideas upon that which is passively perceived, and so comprehending it by something of its own that is native and domestic to it. So that besides the αἰσθήματα sensations, or φαντάσματα phantasms, the sensible ideas of corporeal things passively impressed upon us from without,

there must be also νοήματα conceptions, or intelligible ideas of them actively exerted from the mind itself; or otherwise they could never be understood.

3. Wherefore, that we may the better illustrate this business, let us suppose some individual body; as for example, a white or black triangular superficies, or a solid tetrahedrum four-square included all within a triangular superficies, exposed first to the view of sense or a living eye; and then afterward considered by the intellect, that we may see the difference betwixt the passive perception of it by sense, and the active comprehension of it by the understanding. Now sense, that is a living eye or mirror, as soon as ever it is converted toward this object, will here passively perceive an appearance of an individual thing, as existing without it, white and triangular, without any distinction concretely and confusedly together; and it will perceive no more than this, though it dwell never so long upon this object; for it perceives no more than is impressed upon it; and here the passion of sense ends and goes no further. But the mind or intellect residing in the same soul that hath a power of sensation also, then beginning to make a judgment upon that which is thus passively perceived, exerts its own innate vigor and activity, and displays itself gradually after this manner. For, first, with its subtile divisive power, it will analyze and resolve this concrete phantasmatical totum, whole, and take notice of several distinct intellectual objects in it. For considering that every white or black thing is not necessarily triangular, nor every triangular thing white or black, it finds here two distinct intellectual objects; the one white, the other triangular: And then again, because that which is nothing can have no affections, it concludes, that here is something as a common substratum, subject, to both these affections or modifications, which it calls a corporeal substance; which being one and the same thing, is here both white and triangular. Wherefore it finds at least three distinct objects of intellectual cogitation, corporeal substance, white, and triangular, all individual. But then reflecting again upon these several objects, and that it may further inquire into the natures and essences of them, it now bids adieu to sense and singularity; and taking an higher flight, considers them all universally and abstractly from individuating circumstances and matter. That is, it no more seeks the knowledge and comprehension of these things without itself, from whence it hath already passively perceived them by sense; but revolving within itself upon its own inward notions and active anticipations (which must needs be universal) it looks for some domestic ideas of its own to understand these general natures by, that so from

thence with a descending view it may comprehend under them those individuals that now affect the sense.

4. First therefore, for corporeal substance in general, which is the substratum, subject, both of color and figure, not to pursue any long and tedious processes, it quickly concludes the essence of it to be this; a thing extended impenetrably, or which hath impenetrable longitude, latitude and profundity. And because it is not here considered merely as a notion or objective cogitation, but as a thing actually existing without the mind, therefore it exerts another ratio, notion, of existence or singularity also; which added to the former, makes it up a thing that hath impenetrable extension existing. Now none of these ideas, neither of essence nor existence, nor thing, nor substance, nor something nor nothing; nor impenetrability nor extension, nor longitude, latitude and profundity, were impressed or stamped upon the mind, either from this individual, or any other sensible object; for they can neither be seen nor perceived by any corporeal sense; but are merely excited from the innate activity of the mind itself, that same power by which the mind is enabled to conceive of nihil, nothing, as well as aliquid, something. And certain it is that the idea of nothing was never impressed from any thing. And if the essence of body, or corporeal substance itself, be only comprehended and understood by the active ideas of the mind, (for sense here perceived no such thing, but only was affected from the exterior induments thereof, color and figure) then the several modes of it, such as whiteness and triangularity, which are but certain modes of an extended substance, must needs be understood in like manner, not by passive ideas and phantasms, but the nomatical or intelligible ideas of the mind.

5. Wherefore in the next place, as for white color or whiteness, here is a plain and palpable difference betwixt sense and intellection; betwixt the φάντασμα, phantasm, and νόημα, conception, betwixt a sensible and intelligible idea; for the sense or phantasm of white, that we have from the individual object, is no clear comprehension of any essence or intelligible ratio, notion; but only a passion or affection in the soul, caused by some local motions communicated to the brain from the object without, that is, a drowsy, confused and imperfect perceptive cogitation. But now the awakened mind or intellect revolving its own inward ideas, and being not able to comprehend any such mode or quality in extended substance, as this sensible idea of white is, formally considered; for this very reason, boldly and confidently concludes that this is no real quality in that body itself absolutely considered, because no such thing is intelligible by it; in which opinion, it is con-

firmed by sense itself; in that the lower ends of the rainbow that reach to the earth do not stain or dye any thing with the several colors of it; and that the same drops of dew or rain to eyes at several distances, have all those several colors of the rainbow in them, and none at all. And by other experiments it appears that these things are only passions or affections in the sentient itself, caused by some peculiar modification of the superficies of that material object in respect of the figure, site and disposition of its insensible parts, whereby the light or intermediate globuli, globulous particles, are in a peculiar manner reflected upon the eye, and that probably the difference betwixt a white and a black object consists in this, that in one the small particles are polite and solid, and therefore vividly reflect the lighter globuli, globulous particles; but in the other being differently disposed, the light, as a ball flung against a heap of sand, is not so smartly reflected from it, but as it were sinks into it, and its motion is stifled and smothered in the caverns of it. Wherefore the intelligible idea of a white color is this, that it is a certain passion or sense in the soul, caused by a peculiar modification of the object without, in respect of the disposition of its insensible parts, whereby the light or globuli, globulous particles, are more smartly and vividly reflected upon the eye; which is another kind of comprehension of it, than the sensible idea or phantasm of white is, which is no intelligible idea, but a cogitative passion; that is, another species of cogitation, as an half awakened perception. Neither are these intelligible ideas of passion and sense impressed upon the soul from the sensible objects without; for the eye sees neither passion nor sense, but they are actively exerted from the mind itself, and therefore mastered and conquered, and comprehended by it.

6. I now proceed to the last intellectual object comprehended in this individual body, which is triangularity, or some one particular species of a triangle; as for example, an equilateral, or a rectangular triangle; for there can be no individual triangle but must be of one determinate species or another.

Now because the phantasm of such a triangle doth not only bear a resemblance of the outward material object, which the phantasms of colors and the like do not, but also of the true intelligible idea of a triangle itself; and because when men think never so abstractly and mathematically of a triangle, they have commonly some rude phantasm or picture of it before them in their imagination, therefore many confidently persuade themselves, that there is no other idea of a triangle or other figure, beside the bare phantasm or sensible idea impressed upon the soul from some individual object without; that is, no active

noematical idea inwardly exerted from the mind itself. Which indeed is all one as to say, that there is no intellection or knowledge of a triangle at all; forasmuch as neither sense nor fancy, which are but superficial, imperfect and incomplete perceptive cogitations, reach to the comprehension of the ratio, notion, or essence of any thing. Wherefore now to make the contrary appear, we will again view this material triangle, tetrahedrum, or four square, before our eyes, making a nearer approach to it; and upon this second contemplation of it, we plainly observe much inequality in the superficies, unevenness and inequality in the lines, and bluntness in the angles. From whence it evidently appears that that idea that we had in our minds of a perfect triangle, as a plain superficies terminated by three straight lines joined together in three triangles, ending in so many points, was not impressed upon our soul from this individual object, it being different from it, and far more exact and perfect than that is. And therefore it must needs be granted that it was but occasionally or accidentally invited and drawn forth from the mind, upon the sight of it, just in the same manner as when a man looks upon certain lines drawn with ink upon a piece of paper something resembling the face of a man, his mind doth not fix and stay itself in the consideration of those inky lines; but presently upon this occasion excites within itself the idea of a man's face. Or when a man walking in the gallery where there are divers pictures hung upon the wall, chances among them to espy the picture of a friend or acquaintance of his, which, though perhaps far from an exact resemblance, yet notwithstanding makes him presently to excite the idea of his friend in his imagination. Neither of which things could possibly be, if there had not been a previous and pre-existent idea of a man's face, or such a certain friend in his mind before; for otherwise a man in this case could think of nothing but just that that was impressed upon him by sense, the figures of those inky delineations, and those several strokes and shadows of the pictures. In like manner, when we look upon the rude, imperfect and irregular figures of some corporeal things, the mind upon this occasion excites from within itself the ideas of a perfect triangle, square, circle, pyramid, cube, sphere, and the like, whose essences are so indivisible, that they are not capable of the least additions, detraction or variation without the destruction of them, because there was some rude and bungling resemblance of these regular figures in those material objects that we look upon, of which probably the maker had the ideas in his mind. And the mind naturally delights more to think of simple and regular, than of compounded and irregular figures.

7. But if any one should here object and say, that it doth not follow from hence, that that more perfect idea which now I have of a triangle in my mind, the accuracy whereof this present visible idea before my eyes doth not reach unto, was actively excited from the mind itself; because it might be some time formerly impressed, from some other individual triangle which I had elsewhere seen; just in the same manner as when I looked upon a picture, that idea of a man's face in general, or of that particular friend, that was occasionally excited thereby, was not any innate idea, or an idea that sprung wholly from the activity of the mind, but was formerly impressed upon the soul, from individual sensible objects now remembered or called to mind. I say, that this cannot possibly be true, because there never was any material or sensible straight line, triangle, circle, that we saw in all our lives, that was mathematically exact, but even sense itself, at least by the help of microscopes, might plainly discover much unevenness, ruggedness, flexuosity, angulosity, irregularity and deformity in them, as will appear to any one that shall make a triangle upon the most accurate lines that the wit or art of man can make; and therefore no material line could stamp or impress upon the soul in a mere passive way those exact ideas that we now have of a triangle or of a straight line, which is the shortest possible between two points, or a circle that is every where equidistant from an individual centre, etc. And if it should be again replied, that notwithstanding there being many such lines and circles as common sense cannot discern the least irregularity in them, howsoever they would be in the mean time really irregular to a perfect and Lyncean sight; yet, according to their appearance, might impress those ideas that we have of a straight line or circle; I answer, that this cannot be neither, there being a vast difference betwixt the confused indistinction of sense and fancy, by reason of their bluntness and imperfection, and the express accuracy, preciseness and indivisibility of those intelligible ideas that we have of a straight line, circle, triangle, tetrahedrum, four-square, and other geometrical figures; and therefore that imperfect, confused indistinction of sense, could never impress any such accurate ideas upon the mind, but only occasion the mind actively to exert them from within itself.

8. Nay, though it should be granted, that there were material lines mathematically exact, perfect triangles, squares, pyramids, cubes, spheres, and the like, such as geometry supposes, as no doubt but the Divine power can make such in fitting matter; yet sense could not at all reach to the discerning of the mathematical accuracy of these things, no more than it doth to the absolute equality of any quantities; as of

lines, superficies, bodies, angles, which is found determined only by the understanding, in that materia intelligibilis, intelligible matter, which geometry is conversant about. So that sense could not be able to determine, what triangle and what tetrahedrum, four-square, was mathematically exact, and what not. From whence it is demonstrably evident, that neither the ratio, notion, of perfect equality, nor the perfect mathematical ideas of figures, triangle, square, circle, pyramid, cube, sphere, etc., were impressed upon the soul from without by sense; sense not at all reaching to the discernment of them.

9. But, lastly, if there were material lines, triangles, pyramids, perfectly and mechanically exact; yet that which made them such, and thereby to differ from other irregular lines, imperfect triangles and cubes, could be nothing else but a conformity to an antecedent intellectual idea in the mind, as the rule and exemplar of them; for otherwise an irregular line and an imperfect triangle, pyramid, cube, are as perfectly that that they are, as the other is: only they are not agreeable to those anticipated and pre-conceived ideas of regular lines and figures actively exerted in the mind or intellect, which the mind naturally formeth to itself, and delighteth to exercise itself upon them, as the proper object of art and science, which the other irregular figures are not. Wherefore whenever a man looking upon material objects judges of the figures of them, and says this is a straight line, this is a perfect triangle, that a perfect circle, but those are neither perfect triangles nor circles; it is plain that here are two several ideas of these lines and figures; the one outwardly impressed from those individual material objects from without upon the sense of the beholder; the other actively exerted from his inward mind or intellect. Which latter busy anticipation of it is the rule, pattern and exemplar, whereby he judges of these sensible ideas or phantasms. For otherwise, if there were no inward anticipations or mental ideas, the spectator would not judge at all, but only suffer; and every irregular and imperfect triangle being as perfectly that which it is, as the most perfect triangle, the mind now having no inward pattern of its own before it, to distinguish and put a difference, would not say one of them was more imperfect than another; but only comparing them with one another, would say that this individual figure was not perfectly like to that; upon which account the perfect triangle would be as imperfectly the imperfect triangle, as the imperfect was the perfect.

10. Wherefore, as I said before, this is just in the same manner, as when a man looks upon the picture of an absent friend or familiar acquaintance, and presently judges of it, he hath plainly two several

ideas in his mind at the same time; one outwardly impressed from the present picture, the other pre-existent in his mind before; by one of which, as the pattern or exemplar, he makes a judgment upon the other, and finds many faults in it; saying, that here both the ideas were foreign and adventitious, the pre-existent idea having been some time formerly impressed from an outward material object, and thence retained in the memory or fancy; but in the other case, when a man looking upon a material triangle, square, circle, cube, sphere, in which there are some palpable irregularities; which he judges of by comparing them with some inward pre-existent ideas that he hath in his mind of a perfect individual triangle, square, circle, cube; and also conceives some dislike and displeasure at the disconformity of the one to the other. The pre-existent ideas here were no foreign or adventitious things, but native and domestic to him, nor at any time formerly passively received from any material objects without, but actively exerted from the mind itself. And I think there is no doubt to be made but if a perfect adult man, that was immediately framed out of the earth, having a newly created soul infused, as the protoplast had, should look upon two several kinds of objects at the same time, whereof one was a perfect circle or sphere, equilateral triangle, tetrahedrum, four-square, square or cube; the other having some resemblances of the same, had notwithstanding apparent irregularity in some parts of them; but that at first sight, he would be more pleased with the one than with the other; which could not be, unless he had some native or active idea of his own within himself, to compare them both with, to which one was more conformable than the other. For there could be no such thing as pulchritude and deformity in material objects, if there were no active power in the soul of framing ideas of regular, proportionate and symmetrical figures within itself, by which it might put a difference between outward objects, and make a judgment of them; but that it only received stamps and impressions from without, for then it must needs be equally or indifferently affected with all alike, and not more pleased or displeased with one than with another. Now the judgment that men have of pulchritude and deformity in sensible things, is not merely artificial, from institution or instruction, or of taught things, but such as springs originally from nature itself.

11. But that there is an intelligible idea of a triangle inwardly exerted from the mind itself, distinct from the phantasm or sensible idea that is outwardly impressed from the material object, will yet further appear from that which follows; for the mind reflecting further upon that idea which it hath of a triangle, considers first the generical na-

ture of it, that it is a plain figure, and that a plain figure is the termination of a plain superficies; which superficies is nothing else but mere latitude without profundity; for plain figures are no otherwise conceived by geometricians. Now it is certain that this idea of a superficies, which geometricians have, was never imprinted upon their minds by sense from any material objects; there being no such thing any where existing without the mind, as latitude without profundity. And therefore it must needs arise from the activity of the mind itself. And the idea of a plain superficies, that is, such a superficies as to all whose parts a straight line may be accommodated, as well as the idea of a straight line, must needs be actively excited from the mind also. Again, it considers the difference betwixt a triangle and other plain figures, that it is included in and terminated by three straight lines joined together in three points; which straight lines being the extremities of a superficies, are mere longitude without either profundity or latitude; and which points being the extremities of those lines, have neither longitude, latitude, nor profundity in them. Which mathematical ideas, in like manner, of a line without latitude and profundity, and a point without longitude, latitude and profundity, were never impressed upon Euclid, or any other geometrician from without, as is evident without further proof. Moreover, this intelligible idea of a triangle, as it includes some numerical considerations in it, which sense hath no idea of, perceiving only one and one and one; so therein sides and angles are relatively considered also to one another; nay, the very notion of an angle, and the quantity thereof, is a relative thing, as Proclus hath observed, and therefore not impressed by sense.

Again the mind considering the idea of its own, as it can find out the several properties of a triangle by mere cogitation, without any thing of sense; as that the greater side always subtends the greater angle, nay, and that the three angles are always equal to two right angles (as we shall show afterwards) so it also, by its own strength is able to find out all the species that are possible in a plain triangle, in respect of the differences both of sides and angles. As in respect of the sides, that it is either equilateral or isosceles, even-legged, or scalenum, having unequal sides; of the angles, that it is a rectangulum, straight cornered, or amblygonium, blunt cornered, or ὀξυγώνιον, sharp cornered, triangle, and that there can be no individual triangle but must of necessity belong to one of the three species of either sort. So that this is not gathered from sense, but exerted from the active power of the mind.

12. The mind can clearly understand a triangle in general, without determining its thought to any particular species, and yet there can be

no distinct phantasm of any such thing; for every distinct phantasm or sensible picture of a triangle must of necessity be either equilateral or equicrural, or inequilateral, scalenum, uneven-legged. And so as we in like manner clearly understand in our minds, chiliogonum, a thing with a thousand corners, or myriogonum, one with ten thousand corners, though we cannot possibly have a distinct phantasm of either of them. But for those particular species of triangles which we may have distinct phantasms of, this doth not at all hinder but that we have, notwithstanding, intelligible ideas of the same besides, actively exerted from the mind itself. And so there is a *φάντασμα*, phantasm, and a *νόημα*, conception, at the same time concurring together, an active and a passive cogitation. The *νόημα*, conception, or intelligible idea being as it were embodied in the phantasm, which alone in itself is but an incomplete perceptive cogitation of the soul half awakened, and doth not comprehend the indivisible and immutable ratio, notion, or essence of any thing.

Which thing to those that cannot better understand it by what we have already declared, might be illustrated in this manner; when an astronomer, thinking of the sun, demonstrates that it is one hundred and sixty times bigger than the globe of the earth, he hath all the while a phantasm or imagination of the sun in his mind, but as *ὥσπερ πεδιαίου*, a circle of a foot diameter; nay, he cannot for his life have a true phantasm of any such magnitude which contains the bigness of the earth so many times, nor indeed fancy the earth an hundredth part so big as it is. Now, as the astronomer hath an intelligible idea of the magnitude of the sun very different from the phantasm of the same, so in like manner have we intelligible ideas of corporeal things, when we understand them, besides the phantasms of them. The phantasm being as it were involucrum, the crasser indument, or corporeal vehicle of the *νόημα*, intelligible idea of the mind.

13. Hitherto, by the instance of an individual and material triangle, we have showed how the soul, in understanding corporeal things, doth not merely suffer from without the body, but actively exert intelligible ideas of its own, and from within itself. Now I observe that it is so far from being true, that all our objective cogitations or ideas are corporeal effluxes or radiation from corporeal things without, or impressed upon the soul from them in a gross corporeal manner, as a signature or stamp is imprinted by a seal upon a piece of wax or clay; that (as I have before hinted) this is not true sometimes of the sensible ideas themselves. For all perception whatsoever is a vital energy, and not a mere dead passion; and as the Atomical philosophy instructs us,

there is nothing communicated in sensation from the material objects without, but only certain local motions, that are propagated from them by the nerves into the brain; which motions cannot propagate themselves corporeally upon the soul also, because it penetrates and runs through all the parts of its own body. But the soul, by reason of that vital and magical union which is between it and the body, sympathizing with the several motions of it in the brain, doth thereupon exert sensible ideas or phantasms within itself, whereby it perceives or takes notice of objects distant from the brain, either within or without the body. Many of which sentiments and phantasms have no similitude at all, either with those local motions made in the brain, or with the objects without; such as are the sentiments of pain, pleasure, and titillation, hunger, thirst, heat and cold, sweet and bitter, light and colors, etc. Wherefore the truth is, that sense, if we well consider it, is but a kind of loquela, speech, (if I may so call it) nature as it were talking to us in the sensible objects without, by certain motions as signs from thence communicated to the brain. For, as speech when men talk to one another, they do but make certain motions in the air, which cannot impress their thoughts upon one another in a passive manner; but it being first consented to and agreed upon, that such certain sounds shall signify such ideas and cogitations, he that hears those sounds in discourse, doth not fix his thoughts upon the sounds themselves, but presently exerts from within himself such ideas and cogitations as those sounds by consent signify, though there be no similitude at all betwixt those sounds and thoughts. Just in the same manner nature doth as it were talk to us in the outward objects of sense, and import various sentiments, ideas, phantasms, and cogitations, not by stamping or impressing them passively upon the soul from without, but only by certain local motions from them, as it were dumb signs made in the brain; it having been first constituted and appointed by nature's law, that such local motions shall signify such sensible ideas and phantasms, though there be no similitude at all betwixt them; for what similitude can there be betwixt any local motions and the senses of pain or hunger, and the like, as there is no similitude betwixt many words and sounds, and the thoughts which they signify. But the soul, as by a certain secret instinct, et tanquam ex compacto, and as it were by compact, understanding nature's language, as soon as these local motions are made in the brain, doth not fix its attentions immediately upon those motions themselves, as we do not use to do in discourse upon mere sounds, but presently exerts such sensible ideas, phantasms and cogitations, as nature hath made them to be signs of, whereby it perceives and takes cogni-

zance of many other things both in its own body, and without it, at a distance from it, in order to the good and conservation of it. Wherefore there are two kinds of perceptive powers in the soul, one below another; the first is that which belongs to the inferior part of the soul, whereby it sympathizes with the body, which is determined by the several motions and pressures that are made upon that from corporeal things without to several sensitive and fantastical energies, whereby it hath a slight and superficial perception of individual corporeal things, and as it were of the outsides of them, but doth not reach to the comprehension of the essence or indivisible and immutable ratio, notion, of any thing. The second perceptive power is that of the soul itself, or that superior, interior noetical part of it which is ἀπαθὴς, ἀσυμπαθὴς, free from passion or sympathy, free and disentangled from all that magical sympathy with the body. Which acting alone by itself, exerts from within the intelligible ideas of things, virtually contained in its own cognoscitive power, that are universal and abstract rationes, notions, from which, tanquam desuper spectans, as it were looking downward, it comprehends individual things. Now because these latter, which are pure active energies of the soul, are many times exerted upon occasion of those other passive or sympathetical perceptions of individual things anteceding; it is therefore conceived by many, that they are nothing else but thin and evanid images of those sensible ideas, and therefore that all intellection and knowledge ascends from sense, and intellection is nothing but the improvement or result of sense. Yet notwithstanding it is most certainly true, that they proceed from a quite different power of the soul, whereby it actively protrudes its own immediate objects from within itself, and comprehends individuals without it, not passively or consequentially, but as it were proleptically, and not with an ascending, but with a descending perception; whereby the mind first reflecting upon itself, and its own ideas virtually contained in its own omniform cognoscitive power, and thence descending downward comprehends individual things under them. So that knowledge doth not begin in individuals, but ends in them. And therefore they are but the secondary objects of intellection, the soul taking its first rise from within itself, and so by its own inward cognoscitive power comprehending things without it. Else how should God have knowledge? And if we know as God knows, then do we know or gain knowledge by universals. In which sense (though not in that other of Protagoras) the soul may be truly said to be the measure of all things.

Now I say, if the very sensible ideas and phantasms themselves, be not mere stamps or impressions from individual things without in a cor-

poreal manner impressed upon the soul, but active, though sympathetical energies of the soul itself. It is much more impossible that the universal and abstract intelligible ideas of the mind, or essences of things, should be mere stamps or signatures impressed upon the soul, as upon a dead thing in a gross corporeal manner.

14. Wherefore here is a double error committed by vulgar philosophers; first, that they make the sensible ideas and phantasms to be totally impressed from without in a gross corporeal manner upon the soul, as it were upon a dead thing; and, secondly, that then they suppose the intelligible ideas, the abstract and universal notions of the mind, to be made out of these sensible ideas and phantasms thus impressed from without in a corporeal manner likewise by abstraction or separation of the individuating circumstances, as it were by the hewing off certain chips from them, or by hammering, beating or anvilling of them out into thin intelligible ideas; as if solid and massy gold should be beaten out into thin leaf-gold. To which purpose they have ingeniously contrived and set up an intellectus agens, active understanding, like a smith or carpenter, with his shop or forge in the brain, furnished with all necessary tools and instruments for such a work. Where I would only demand of these philosophers, whether this their so expert faber, smith or architect, intellectus agens, the active understanding, when he goes about his work, doth know what he is to do with these phantasms before-hand, what he is to make of them, and unto what shape to bring them? If he do not, he must needs be a bungling workman; but if he do, he is prevented in his design and undertaking, his work being done already to his hand; for he must needs have the intelligible idea of that which he knows or understands already within himself; and therefore now to what purpose should he use his tools, and go about to hew and hammer and anvil out these phantasms into thin and subtle intelligible ideas, merely to make that which he hath already, and which was native and domestic to him?

But this opinion is founded in no less a mistake of Aristotle's text concerning the intellectus agens, active understanding, who never dreamt of any such as these men imagine, if we may believe the Greek scholiasts, that best understood him; than it is of the text of nature; as if not only those phantasms, but also the intelligible ideas themselves, were gross and corporeal things impressed from matter; whereas even the first of these are passive energies of the soul itself, fatally united to some local motions in the body, and concurrently produced with them, by reason of that magical union betwixt the soul and body; but the other are the pure and active energies of the mind itself, as free from

corporeal sympathy. Neither can these latter be made out of the former by any abstraction or separation, no nor by any depinxation or chemical distillation or sublimation neither; for it is a thing utterly impossible that vigor, activity and awakened energy, as intellections are, should be raised out of dull, sluggish and drowsy passion or sympathy. And this opinion is but like that other of the same philosopher's concerning the eduction or raising of substantial and immaterial forms out of the passive matter, both of them proceeding from one and the same sottishness of mind that induces them to think that dull, stupid and senseless matter, is the first original source of all activity and perfection, all form and pulchritude, all wisdom and knowledge in the world.

And things being rightly considered, this opinion doth in truth and reality, attribute as much activity to the soul, that saith it hath a power of raising or educing of intelligible ideas or universal and abstract rationes, notions, out of phantasms, as that other that affirms it hath a power of exerting them from itself; as it would attribute as much activity to the sun to say that he had a power of raising or educing light or the day out of night and darkness, as to say that he had a power of exerting it out of his own body.

15. Wherefore others of this kind of philosophers, that will not acknowledge any immaterial substance, that hath any active power of its own in it, or any thing in the soul besides impression from corporeal objects without, have found out another device, and that is this, plainly to deny that there are any universal notions, ideas or rationes, reasons, in the mind at all; but that those things which are called universal, are nothing else but names applied to several individuals. Which opinion, as it was formerly held by those that were therefore called nominales, nominalists; so it hath been lately revived and taken up by some of these strenuous impugners of immaterial and incorporeal substances. There is nothing in the world (saith a late author) universal, but names; for the things named are every one of them individual and singular. Now indeed this is true, and nobody denies it, of things existing without the mind; but this author's meaning herein is to deny all universal conceptus, conceptions, and rationes, reasonings, of the mind, as appears by his larger explication of the same opinion elsewhere: [1]Est nomen hoc universale non rei alicujus existentis in rerum natura, neque ideæ sive phantasmatis alicujus in animo formati, sed alicujus semper vocis sive nominis nomen, ita ut cum dicatur animal vel

[1] Elect. Philos.

saxum, vel spectrum, vel aliud quicquam esse universale, intelligendum sit tantum voces eas animal, saxum, esse nomina universalia, id est nomina pluribus rebus communia, et respondentes ipsis in animo conceptus sunt, singularium animalium vel aliarum rerum imagines et phantasmata. Ideoque non est opus ad vim universalis intelligendam alia facultate quam imaginativa, qua recordamur voces ejusmodi modo unam rem, modo aliam in animo excitasse. This universal is the name, not of any thing existing in the nature of things, nor of any idea or phantasm formed in the mind, but always the name of some word or name; so that when an animal, or a stone, or a spectre, or any thing else is said to be universal, it is to be understood only that those words animal, stone, are universal names, that is, names common to more things; and the conceptions answering to them in the mind, are the images and phantasms of singular animals or other things. And therefore to understand the meaning of an universal, there is no need of any other faculty than that of imagination, whereby we are minded that words of that sort have sometimes excited one thing, sometimes another in our mind.—That is, there are no other ideas in the mind but only phantasms of individual corporeal things. Only there are universal names, which are applied in common to more individuals than one; but there is no other object of the mind or cogitation but only singular and individual things existing without the soul. Wherefore this author consentaneously hereunto defines understanding to be nothing else but conception caused by speech; and therefore if speech be peculiar to man, then is understanding peculiar to him also. This mysterious notion is insisted upon and explained likewise by the third objector against Cartesius's metaphysics, after this manner: Quid jam dicimus si forte ratiocinatio nihil aliud sit quam copulatio et concatenatio nominum sive appellationum per verbum hoc est. Unde colligimus ratione nihil omnino de natura rerum sed de eorum appellationibus, nimirum utrum copulemus rerum nomina secundum pacta vel non. Si hoc fit, sicut esse potest, ratiocinatio dependebit a nominibus, nomina ab imaginatione, et imaginatio ab organorum corporeorum motu, et sic mens nihil aliud erit præterquam motus in partibus quibusdam corporis organici. Now what do we say, if perhaps reasoning be nothing else but the coupling and chaining together of names or appellations, by these words, it is. Whence we gather nothing at all by reason concerning the nature of things, but concerning their appellations; to wit, whether we join the names of things according to agreements or not. If this be so, as it may be, reasoning will depend upon names, names upon the imagination, and the imagination upon the motion of the bodily or-

gans; and so the mind will be nothing else but a motion in some parts of the body.—According to which philosophy, reason and science do not superadd any thing to sense, or reach any further in the knowledge of the nature of things, but only in making use of common names to express several individuals by at once.

16. Wherefore, although there be already enough said to prove, that in the understanding of individual corporeal things, besides sense and the sensible phantasms from them, there are also intelligible ideas and universal rationes, notions, exerted from the mind itself, by which alone they are comprehended; yet still to make this business clearer, and also to demonstrate, that the knowledge of universal axiomatical truth, and scientifical theorems is a thing which doth not passively result from sense, but from the actual strength and vigor of the intellect itself comprehending its own intelligible ideas, we will here propose that one geometrical theorem concerning a triangle; that it hath three angles equal to two right angles; and consider what the subject of it is, ἐπιστημονικῶς, scientifically comprehended.

First therefore, if there be no other object of the mind in knowledge but sensible individuals existing without us, then the subject of this theorem, when Euclid wrought it, was only some individual bodies by him compared together. Nay, Euclid himself did not carry this knowledge about with him in his mind, neither was he master of it any longer than he held those individual bodies in his hands, or looked upon them with his eyes; and if so, it could not signify any thing at all, to any other person which either then or now had not the same individual bodies to compare, that Euclid had. Whereas it is plain, that the subject of this theorem, whatsoever it be, is such a thing as every geometrician, though in never such distant places and times, hath the very same always ready at his hand, without the least imaginable difference. And they all pronounce concerning the same thing. Which could not possibly otherwise be, unless it were some universal ratio, notion, and intelligible idea of the mind.

17. Again, secondly, no individual or material thing is the subject of this theorem, as sense takes cognizance of it, that is, the matter, and color, and figure and magnitude, all concretely together. For the same individual matter may presently be made quadrangular or circular, but only precisely in respect of the figure; and of that also no otherwise than as it is conformable to the indivisible and immutable ratio, notion, or idea of a triangle, comprehended in the mind as the exemplar of it. Now, as we have showed already, there is no material triangle any where to be found that is mathematically exact and accurate, neither is

the individual form of a material triangle immutable. And if there were any mathematically exact, our sense could be no κριτήριον, criterion, or rule to judge of it, nor discern when any thing were indivisibly such, nor judge of the absolute and mathematical equality of the three material angles of it, with two other angular superficies. Wherefore the subjects of this geometrical theorem are no sensible individual bodies, but the rationes, notions, and ideæ, ideas, of the mind itself, in which alone mathematical accuracy is to be found, and the exact equality of one thing to another certainly and infallibly known.

18. Nay, if we should suppose that there were some individual material triangles and angles, absolutely and mathematically exact; and that our sense did infallibly perceive the indivisible points of them; or that we had an infallible pair of compasses, whose cuspides, tops, were mathematical points, whereby we could measure the several angles of the triangle and right angle in a perfect circle, accurately divided into infinite parts; or else cutting off those several angles of the triangle, and laying them together upon an absolute plane, we should thus mechanically find them equal to the two material right angles; this would not amount to the knowledge of this truth, that a triangle, as such, hath of necessity three angles equal to two right angles; we thus considering them only as material individuals, and things existing without the mind by corporeal sense. For though we had now found that these individual material triangles were equal to those two individual material right angles; yet looking no further than sense determined to individuals, we could not tell certainly that it was so with all individual triangles, much less understand any necessity of its being so, or attain to any thing of the διότι, reason, of it, in which alone true science consisteth. And this Aristotle hath observed very pertinently to our purpose: [1]*Οὐδὲ δι᾽ αἰσθήσεώς ἐστιν ἐπίστασθαι, ἀλλ᾽ αἰσθάνεσθαι γε· ἀναγκαῖον τὸ δέ τί καὶ ποῦ καὶ νῦν· τὸ δὲ καθόλου καὶ ἐπὶ πᾶσιν ἀδύνατον αἰσθάνεσθαι· οὐ γὰρ τόδε, οὐδὲ νῦν, οὐ γὰρ ἦν καθόλου. Τὸ γὰρ ἀεὶ καὶ πανταχοῦ καθόλου φάμεν εἶναι. Ἐπεὶ οὖν αἱ μὲν ἀποδείξεις καθόλου, ταῦτα δὲ οὐκ ἐστὶν αἰσθάνεσθαι, φανερὸν ὅτι οὐδὲ ἐπίστασθαι δι᾽ αἰσθήσεώς ἐστιν. Ἀλλὰ δῆλον ὅτι καὶ εἰ ἦν αἰσθάνεσθαι ὅτι τὸ τρίγωνον δυσὶν ὀρθαῖς ἴσας ἔχει τὰς γωνίας, ἐζητοῦμεν ἂν ἀπόδειξιν, καὶ οὐ (ὡς φασί τινες) ἠπιστάμεθα. Αἰσθάνεσθαι μὲν γὰρ ἀνάγκη καθ᾽ ἕκαστον, ἡ δὲ ἐπιστήμη τὰ τοῦ καθόλου γνωρίζειν ἐστὶ·* Neither is it necessary to understand by sense, but to perceive; but this regards a particular thing and manner, and the present time. But it is impossible to perceive by sense what relates to ev-

[1] Post. Anal. lib. i. cap. xxv.

ery thing, and in all respects; for *this* and *now* relate to an universal; for of an universal we say, that it is *always* and *every where*. Since then demonstrations are of an universal, it is plain that there is no knowledge of the universal theorems of geometry by sense. For it is manifest, that if we could perceive by sense that the three angles of a triangle were equal to two right angles, yet should we not rest satisfied in this, as having therefore a sufficient knowledge of it (as some say;) but would seek further after a demonstration hereof; sense reaching only to singulars, but knowledge to universals.—The mind would not be satisfied herewith, but would still further require a demonstration of it; which demonstrations are not of individuals perceived by sense, but only of the universal rationes, notions, comprehended in the mind; knowledge, as I said before, being a descending comprehension of a thing from the universal ideas of the mind, and not an ascending perception of them from individuals by sense.

19. Wherefore the apodictical knowledge of this truth is no otherwise to be attained than by the mind's ascending above sense, and elevating itself from individuals to the comprehension of the universal rationes, notions, and ideas of things within itself, making the object of its inquiry and contemplation, not this nor that material individual triangle without itself, but the indivisible and immutable notion of a triangle. And thus it finds several ways that a triangle, as such, must of necessity have its three angles equal to two right angles.

For, first, if one will consider any triangle, as made out of a parallelogram (though this be the more compounded figure) divided by a diagonal line into two equal triangles, it is plain in every parallelogram there are four angles equal to four right angles, because when a straight line cuts two parallel lines, the two interior angles must of necessity be equivalent to two right angles, one of them being the complement of the other to a semicircle. But when the parallelogram is divided into two equal triangles by a diagonal line, the quantity of the three angles in each must of necesity be half the quantity of the four angles in the parallelogram.

Or, if a man will consider the genesis, formation of a plain triangle in this manner; first, by a straight line cutting two parallel lines, and then one of these parallels moving upon its centre in the straight line out of its parallelism, and inclining towards the other line, if it move never so little out of its parallelism towards the other parallel, the continuation of it must needs cut the other line, and make a triangle.

And so much as the interior angle, which with the other opposite, made up two right angles, so much is the third angle; and therefore all three make up two right angles.

20. Now here is a gross error of the vulgar to imagine, because geometricians demonstrating such theorems, commonly make use of such sensible schemes or diagrams, that therefore the knowledge of this truth doth result from sense, or that the geometricians themselves have no other ideas in their minds of straight lines, parallels, right, acute and obtuse angles, triangles, equality of angles, than what are impressed upon their fancy from these schemes. Whereas these are only made use of to entertain the fancy in the mean time, whilst the mind being intent upon the demonstration, actively exerts other intelligible ideas of these things from within itself, and from thence comprehends the apodictical necessity of the theorem. Neither is the true and proper knowledge of one theorem or universal and necessary truth, either in geometry or metaphysics, passively impressed upon the soul from individuals existing without, or the result of mere sense, but it proceeds from the active strength and vigor of the mind, comprehending the intelligible ideas and universal rationes, notions, of things within itself.

21. Wherefore we conclude, that the immediate objects of geometrical science, properly so called, are not individual bodies or superficies, but the intelligible and universal ideas of a triangle, square, circle, pyramid, cube, sphere, actively exerted from the mind, and comprehended in it. For the mind doth not seek its objects of knowledge abroad without itself, but must needs actively comprehend them within itself. Which also, as we shall show in the following chapter, are immutable things, and always the same.

BOOK IV.

CHAP. IV.

1. No individual material thing is always necessarily the same with itself, but mutable and changeable. And our sensible perceptions of them, are nothing but passions or affections in the soul from some local motions in our body caused by them; which passions also are a kind of motions in the soul, whereby we do not comprehend the immutable ratio or essence of any thing. But intellection and knowledge are the active comprehension of something that is fixed and immutable, and hath always a necessary identity with itself. For that which is not one steady and immutable thing, cannot as such, be an object of intellection or knowledge, neither can the mind fix itself upon it; for it must needs mock and delude the understanding, perpetually gliding and rolling away from it, when it endeavors to grasp or comprehend it. Neither can it be the basis or subject of any scientifical theorem or proposition; for how can any thing be certainly, constantly and immutably affirmed of that which is no one certain thing, nor always immutably the same with itself. Whence it plainly follows, that the immediate objects of intellection and knowledge, cannot be these individual material things as such, which our senses are passively affected from, but must of necessity be something else.

2. For which cause those flowing philosophers before mentioned, Heraclitus, Cratylus, and Protagoras, that maintained, that there were no other beings that could be the objects of cogitation besides these individual material things, which they supposed always to flow, and never to stand still; did consentaneously to this hypothesis of theirs assert; that there was no knowledge but sense, and no certain or immutable comprehension of any thing. For that this assertion of theirs was grounded merely upon this hypothesis, that there was no other being or object of the mind besides individual material things, as such; which they signified after this manner, by saying, that all things flowed, for these material things do so; Aristotle plainly instructs us in his Metaphysics:

[1]*Αἴτιον δὲ τῆς δόξης τούτοις ὅτι περὶ τῶν ὄντων μὲν τὴν ἀλήθειαν ἐσκόπουν· τὰ δ᾽ ὄντα ὑπέλαβον εἶναι τὰ αἰσθητὰ μόνον. Ἐν δὲ τούτοις, πολλὴ ἡ τοῦ ἀορίστου φύσις ἐνυπάρχει.———Ἔτι δὲ πᾶσαν ὁρῶντες ταύτην κινουμένην τὴν φύσιν, κατὰ δὲ τοῦ μεταβάλλοντος, οὐδὲν ἀληθευόμενον, περί γε τὸ πάντως πάντη μεταβάλλων, οὐκ ἐνδέχεσθαι ἀληθεύειν.*

Ἐκ γὰρ ταύτης τῆς ὑπολήψεως ἐξήνθησεν ἡ ἀκροτάτη δόξα τῶν εἰρημένων, ἡ τῶν φασκόντων ἡρακλειτίζειν, καὶ οἵαν Κρατύλος εἶχεν, ὃς τὸ τελευταῖον οὐδὲν ᾤετο δεῖν λέγειν, ἀλλὰ τὸν δάκτυλον ἐκίνει μόνον, καὶ Ἡρακλείτῳ ἐπετίμα εἰπόντι δὶς τῷ αὐτῷ ποταμῷ οὐκ ἐμβῆναι. Αὐτὸς γὰρ ᾤετο οὐδ᾽ ἅπαξ· The ground of this opinion, which denied all certain and immutable knowledge, was from hence: because truth and knowledge refer to beings or entities, and they supposed that there were no other beings besides these individual sensibles only. In which there is very much of undeterminateness———And which they perceived to be liable to perpetual motion or mutation. Now concerning that which always changes, nothing can be affirmed as constantly and immutably true. And from this supposition sprung the highest sect of those which are called Heraclitical philosophers, and those that follow Cratylus, who at last came to this, that he only moved his finger, but thought that nothing at all ought to be affirmed; and reprehended Heraclitus for saying, that one cannot twice enter into the same river, because he thought that one could not so much as once do it;—that is, that no material thing remained one moment the same.

3. Wherefore if there be any such thing as intellection, science, and knowledge, distinct from external sense, and any immutable truths, then there must of necessity be some other kind of beings or entities, besides these individual material things, as the immediate objects or subjects of them, such things as do not flow, but *ἀεὶ ταῦτα καὶ ὡσαύτως ἔχοντα*, always remain immutably the same, or *μόνιμα καὶ μίαν ἀεὶ φύσιν ἔχοντα*, permanent, and having always the same nature, as Plato expresseth these immediate objects of knowledge; or else, in Aristotle's language, *ἀκίνητος οὐσία*, an immutable essence. Who therefore confutes both these sects of philosophers, whereof one was extremely metaphysical, that made all things to stand still; whom, I confess, I understand not; the other too grossly material, and addicted to sense, that made nothing to stand still, but all things to flow; after this manner: *Φανερὸν ὅτι οὐδ᾽ οἱ πάντα ἠρεμεῖν λέγοντες ἀληθῆ λέγουσιν, οὐδ᾽ οἱ πάντα κινεῖσθαι. Εἰ μὲν γὰρ ἠρεμεῖ πάντα, ἀεὶ ταῦτα ἀληθῆ καὶ ψευδῆ ἔσται· φαίνεται δὲ τοῦτο μεταβάλλον· ὁ γὰρ λέγων πότε αὐτὸς οὐκ ἦν, καὶ*

[1] Arist. Metaph. lib. iv. cap. v.

πάλιν οὐκ ἔσται. Εἰ δὲ πάντα κινεῖται, οὐθὲν ἔσται ἀληθὲς, πάντα ἄρα ψευδῆ· It is manifest, that neither they speak truly who affirm all things to rest, nor they that affirm all things to move. For if all things rest, then the same things would always be true and false; which is not so, because he that affirms this, once was not, and again will not be. But if all things move, then nothing can be true, and therefore all things will be false.—And both he and Plato compounded that controversy thus; by acknowledging two sorts of entities, the one mutable, or subject to flux and motion, such as are especially individual corporeal things; the other immutable, that always rest or stand still, which are the proper objects of certain, constant, and immutable knowledge, that therefore cannot be mere nothings, non-entities.

Which latter kind of being, that is, the ἀκίνητος οὐσία, immutable essence, as a distinct thing from individual sensibles, Aristotle plainly asserts against Heraclitus, and those other flowing philosophers, in these words; ἔτι δὲ ἀξιώσομεν ἀυτοὺς ὑπολαμβάνειν καὶ ἄλλην οὐσίαν εἶναι τῶν ὄντων, ᾗ οὔτε κίνησις ὑπάρχει οὔτε φθορὰ οὔτε γένεσις τὸ παράπαν· We would have these philosophers to know, that besides sensible things, that are always mutable, there is another kind of being or entity of such things as are neither subject to motion, corruption, nor generation. And elsewhere he tells us, that this ἀκίνητος οὐσία, immovable essence, is the object of theoretical knowledge, of the first philosophy, and of the pure mathematics.

4. Now these immutable entities are the universal rationes, or intelligible natures and essences of all things, which some compare to unities, but Aristotle to numbers; which formally considered, are indivisible: saith he, εἰσί πως ἀριθμοὶ αἱ οὐσίαι, the essences of things are like to numbers;—because if but the least thing be added to any number, or subtracted from it, the number is destroyed.

And these are the objects of all certain knowledge. As for example, the objects of geometry are not any individual material triangles, squares, circles, pyramids, cubes, spheres, and the like; which because they are always mutable, nothing can be immutably affirmed of them; but they are those indivisible and unchangeable rationes of a triangle, square, circle; which are ever the same to all geometricians, in all ages and places, of which such immutable theorems as these are demonstrated, as that a triangle has necessarily three angles equal to two right angles.

But if any one demand here, where this ἀκίνητος οὐσία, these immutable entities do exist? I answer, first, that as they are considered formally, they do not properly exist in the individuals without us, as if

they were from them imprinted upon the understanding, which some have taken to be Aristotle's opinion; because no individual material thing is either universal or immutable. And if these things were only lodged in the individual sensibles, then they would be unavoidably obnoxious to the fluctuating waves of the same reciprocating euripus, in which all individual material things are perpetually whirled. But because they perish not together with them, it is a certain argument that they exist independently upon them. Neither in the next place, do they exist somewhere else apart from the individual sensibles, and without the mind, which is that opinion that Aristotle justly condemns, but either unjustly or unskilfully attributes to Plato. For if the mind looked abroad for its objects wholly without itself, then all its knowledge would be nothing but sense and passion.—For to know a thing is nothing else but to comprehend it by some inward ideas that are domestic to the mind, and actively exerted from it. Wherefore these intelligible ideas or essences of things, those forms by which we understand all things, exist no where but in the mind itself; for it was very well determined long ago by Socrates, in Plato's Parmenides, that these things are nothing else but noemata: *Τῶν εἰδῶν ἕκαστον τούτων νόημα, καὶ οὐδυμοῦ αὐτῷ προσήκει ἐγγίνεσθαι ἄλλοτι ἢ ἐν ψυχῇ·* "These species or ideas are all of them nothing but noemata, or notions that exist no where but in the soul itself." Wherefore to say that there are immutable natures and essences, and rationes of things, distinct from the individuals that exist without us, is all one as if one should say, that there is in the universe above the orb of matter and body, another superior orb of intellectual being, that comprehends its own immediate objects, that is, the immutable rationes and ideas of things within itself, by which it understands and knows all things without itself.

And yet notwithstanding though these things exist only in the mind, they are not therefore mere figments of the understanding: for if the subjects of all scientifical theorems were nothing but figments, then all truth and knowledge that is built upon them would be a mere fictitious thing; and if truth itself and the intellectual nature be fictitious things, then what can be real or solid in the world? But it is evident, that though the mind thinks of these things at pleasure, yet they are not arbitrarily framed by the mind, but have certain, determinate, and immutable natures of their own, which are independent upon the mind, and which are not blown away into nothing at the pleasure of some being that arbitrarily made them.

But we all naturally conceive that those things have not only an

eternal, but also a necessary existence, so that they could not ever but be, such, and so many as they are, and can never possibly perish or cease to be, but are absolutely undestroyable.

5. Which is a thing frequently acknowledged in the writings of both those famous philosophers, Plato and Aristotle.—The former of them calling those things, *Τὰ μὴ γιγνόμενα, ἀλλ' ἀεὶ ὄντα·* Things that were never made, but always are,—and *Μήτε γιγνόμενα μήτε ἀπολλύμενα.* Things that were never made, nor can be destroyed,—*Τὰ ἀγέννητα καὶ ἀνώλεθρα·* Things ingenerable and unperishable;—Quæ Plato negat gigni sed semper esse (as Tully expresseth it) et ratione et intelligentia contineri. And Philo, the platonical Jew, calls the *τὰ Νοητὰ,* which are the same things we speak of *ἀναγκαιόταται οὐσίαι,* the most necessary essences, that is, such things as could not but be, and cannot possibly not be. And Aristotle himself calls the rationes of things in his metaphysics, not only *χωριστὰ* and *ἀκίνητα,* things separate from matter and immutable, but also *ἀΐδια,* or eternal; and in his ethics likewise, he calls geometrical truths *ἀΐδια,* eternal things,[1] *Περὶ τῶν ἀϊδίων οὐδεὶς βουλεύεται, οἷον περὶ τῆς διαμέτρου καὶ τῆς πλευρᾶς ὅτι ἀσύμμετροι·* where he makes the geometrical truth concerning the incommensurability betwixt the diameter and the side of a square, to be an eternal thing.—Elsewhere he tells us, that *Οὐ τῶν φθαρτῶν εἶναι ἐπιστήμην·* Science, properly so called, is not of things corruptible and contingent, but of things necessary, incorruptible and eternal. Which immutable and eternal objects of science, in the place before quoted, he describes thus: *Οὐσίαν τῶν ὄντων ᾗ οὔτε κίνησις ὑπάρχει, οὔτε φθορὰ, οὔτε γένεσις τὸ παράπαν·* Such a kind of entity of things as has neither motion nor generation, nor corruption,—that is, such things as were never made, and can never be destroyed. To which, he saith, the mind is necessarily determined. For science or knowledge has nothing either of fiction or of arbitrariness in it, but is *Κατάληψις τοῦ ὄντος·* the comprehension of that which immutably is.—

6. Moreover, these things have a constant being, when our particular created minds do not actually think of them, and therefore they are immutable in another sense likewise, not only because they are indivisibly the same when we think of them, but also because they have a constant and never-failing entity; and always are, whether our particular minds think of them or not. For the intelligible natures and essences of a triangle, square, circle, pyramid, cube, sphere, etc. and all the necessary geometrical verities belonging to these several figures, were not the creatures of Archimedes, Euclid, or Pythagoras,

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[1] l. 3. c. 5.

or any other inventors of geometry; nor did then first begin to be; but all these rationes and verities had a real and actual entity before, and would continue still, though all the geometricians in the world were quite extinct, and no man knew them or thought of them. Nay, though all the material world were quite swept away, and also all particular created minds annihilated together with it; yet there is no doubt but the intelligible natures or essences of all geometrical figures, and the necessary verities belonging to them, would notwithstanding remain safe and sound. Wherefore these things had a being also before the material world and all particular intellects were created. For it is not at all conceivable, that ever there was a time when there was no intelligible nature of a triangle, nor any such thing cogitable at all, and when it was not yet actually true that a triangle has three angles equal to two right angles, but that these things were afterward arbitrarily made and brought into being out of an antecedent nothing or non-entity; so that the being of them bore some certain date, and had a youngness in them, and so by the same reason might wax old, and decay again; which notion he often harps upon, when he speaks of the *Εἴδη*, or forms of things, as when he says, *Τοῦ σφᾶιραν εἶναι οὐκ ἔστι γένεσις·* there is no generation of the essence of a sphere,—that is, it is a thing that is not made; but always is: and elsewhere he pronounces universally of the *Εἴδη*, *Ἄνευ γενέσεως καὶ φθορᾶς ὅλως εἶναι τὰ εἴδη·* The forms of material things are without generation and corruption,—and *Τὸ εἶδος οὐθεις ποιεῖ, οὐδὲ γεννᾶται·* That none makes the form of any thing, for it is never generated.—Divers have censured Aristotle in some of such passages too much to confound physics and metaphysics together; for indeed these things are not true in a physical, but only in a metaphysical sense. That is, *Τὰ νοητὰ*, the immediate objects of intellection and science, are eternal, necessarily existent, and incorruptible.

7. Now the plain meaning of all this is nothing else, but that there is an eternal wisdom and knowledge in the world, necessarily existing, which was never made, and can never cease to be or be destroyed; or, which is all one, that there is an infinite eternal mind necessarily existing, that actually comprehends himself, the possibility of all things, and the verities clinging to them. In a word, that there is a God, or an omnipotent and omniscient being, necessarily existing, who therefore cannot destroy his own being or nature, that is, his infinite power and wisdom.

For since the rationes, intelligible essences, and verities of things, as we observed before out of Plato, are nothing but noemata, that is, objective notions or knowledges, which are things that cannot exist

alone, but together with that actual knowledge in which they are comprehended, they are the modifications of some mind or intellect.—It is all one to affirm, that there are eternal rationes, essences of things, and verities necessarily existing, and to say that there is an infinite, omnipotent and eternal mind, necessarily existing, that always actually comprehendeth himself, the essences of all things, and their verities; or, rather, which is the rationes, essences, and verities of all things; for the rationes and essences of things are not dead things, like so many statues, images or pictures hung up somewhere by themselves alone in a world: neither are truths mere sentences and propositions written down with ink upon a book, but they are living things, and nothing but modifications of mind or intellect; and therefore the first intellect is essentially and archetypally all rationes and verities, and all particular created intellects are but derivative participations of it, that are printted by it with the same ectypal signatures upon them.

And we may undoubtedly conclude, that it is a thing altogether as certain, that there is an infinite and eternal mind, [that is, a God] necessarily existing in the world, as that there ever was the ration or intelligible essence of a triangle, or circle, of unity and duality; and that it was ever actually true, that a triangle hath three angles equal to two right angles; or that [7]æqualia addita æqualibus efficiunt æqualia: or the like.

8. Neither does this hinder or contradict the truth of this assertion, that many that doubt concerning the existence of a God, yet notwithstanding confidently believe the necessary eternity of these things; and persuade themselves, that though there were no mind nor intellect, and so no God in the world; nay, though there was no matter neither, and no substantial entity at all, yet notwithstanding these rationes and verities of things would necessarily be as they are.

9. For there is an absolute impossibility in this assertion, that these essences of things and verities should be, though there were no substantial entity or no mind existing. For these things themselves must of necessity be either substances, or modifications of substance.—For what is neither substance nor modification of a substance, is a pure non entity.—And if they be modifications of substance, they cannot possibly exist without that substance whose modifications they are—which must either be matter or mind, but they are not the modifications of matter as such, because they are universal and immutable; therefore they are the modifications of some mind or intellect; so that these cannot be eternal without an eternal mind.

And these men do but deceive themselves in the hypothetical as-

sertion, that there would have been these rationes and universal verities, though there had never been a God or intellect; neither considering what the nature of God is, whose existence they would question or doubt of, nor what those rationes and verities, are, which they would make so necessarily existent, by means whereof they do at once assert and question the same thing: for that which begets so strong a persuasion in their minds, that the rationes of things and universal verities are so necessarily eternal, though they do not perceive it, is nothing else but an inward invincible prepossession of the necessary existence of God, or an infinite eternal omnipotent and omniscient mind, (that always actually comprehends himself, and the extent of his own power, or the ideas of all possible things) so deeply radicated and infixed in their minds, as that they cannot possibly quit themselves of it, though they endeavor it never so much, but it will unawares adhere to them, even when they force themselves to suppose the non-existence of God as a person, whose idea they do not clearly comprehend: That is, the force of nature is so strong in them as to make them acknowledge the thing, when they deny the word. So that the true meaning of this phenomenon is nothing else but this, that God is a being so necessarily existent, that though men will suppose the non-existence of him, and deny the name, yet notwithstanding they cannot but confute themselves, and confess the thing.

10. Nay, it is clearly and mathematically demonstrable from what we have already proved, that there is some eternal mind: for as it is unquestionably certain, that something in the world was eternal, merely from hence, because there is being, which could not spring out of nothing; and therefore if there were no God, matter of necessity must be eternal: so because there is mind and understanding, and actual knowledge in the world, and these things could not spring out of matter, wisdom and knowledge must needs be eternal things, and there must be of necessity some eternal mind.

For, ex hypothesi, that once there had been no knowledge, no intelligible rationes or essences of things, no mind or intellect in the world, it would have been absolutely impossible that ever there should have been any such thing, because it could neither spring out of nothing, nor which is all one, out of senseless and unknown matter.

11. Now because every thing that is imperfect must needs depend upon something that is perfect in the same kind, our particular imperfect understandings, which do not always actually contain the rationes of things and their verities in them, which are many times ignorant, doubting, erring, and slowly proceed by discourse and ratiocina-

tion from one thing to another, must needs be derivative participations of a perfect, infinite and eternal intellect, in which is the rationes of all things, and all universal verities are always actually comprehended. Which consideration is so obvious and unavoidable, that Aristotle himself could not miss of it—for he tells us, that since our understandings are but *Δυνάμει πάντα·* potentially all things,—that is, have not an actual but potential omniformity only, there must of necessity be in rerum natura, another intellect that is actually all knowledge, and is the same to our understandings *Οἷον ἡ τέχνη πρὸς τὴν ὕλην·* that active art is to passive matter,—and *Οἷον τὸ φῶς·* that the light is to our eyes,—and which does not *Ὁτὲ μὲν νοεῖν, ὁτὲ δὲ οὐ νοεῖν·* sometimes understand, and sometimes not understand, as it were sometimes awake, and sometimes asleep,—but is always eternal, *Κατ' ἐγέργειαν ἐπίστημα·* actual knowledge.—A sun that never sets, an eye that never winks—wherefore though all our knowledges be not stamped or impressed upon our souls from the matter; they are all, as it were, *εσφραγίσματα*, ectypal prints, and *ἐκμάγματα*, derivative signatures from one archetypal intellect, that is essentially the rationes of all things and all verities.

12. And from hence it comes to pass, that all understandings are not only constantly furnished with forms and ideas to conceive all things by, and thereby enabled to understand all the clear conceptions of one another, being printed all over at once with the seeds of universal knowledge, but also have exactly the same ideas of the same things; whereas if these things were impressed upon our souls from the matter without, all men would not be readily furnished with ideas to conceive all things by at every time, it being merely casual and contingent what things occur to men's several senses; neither could their ideas be exactly alike to one another, because no individual objects are so; and therefore when one spoke of one thing, another would mean another. Much less could men so promptly and expeditely exert them upon all occasions, if they were dead forms passively received only, and not all virtually contained in some one active and vital principle that had a potential omniformity in it.

Wherefore, as Themistius observes, men could not possibly confer and discourse together in that manner as they do, presently perceiving one another's meaning, and having the very same conceptions of things in their minds, *Εἰ μή τις ἦν εἷς νοῦς οὐ πάντες ἐκοινωνοῦμεν·* if all did not partake of one and the same intellect.—Neither could one so readily teach, and another learn, *Εἰ μὴ ταὐτὸν ἦν τὸ νόημα τοῦ διδάσκοντος καὶ τοῦ μανθάνοντος·* if there were not the same ectypal stamps of things in the mind both of the teacher and the learner.—

13. Moreover, from hence also it comes to pass that truths, though they be in never so many several and distant minds apprehending them, yet they are not broken, multiplied, or diversified thereby; but they are one and the same individual truths in them all. So that it is but one truth and knowledge that is in all the understandings in the world. Just as when a thousand eyes look upon the sun at once, they all see the same individual object. Or as when a great crowd or throng of people hear one and the same orator speaking to them all, it is one and the same voice that is in the several ears of all those several auditors; so in like manner, when innumerable created understandings direct themselves to the contemplation of the same universal and immutable truths, they do all of them but as it were listen to one and the same original voice of the eternal wisdom that is never silent; and the several conceptions of those truths in their minds are but like several echos of the same verba mentis of the divine intellect resounding in them.

14. From what we have already declared, it is evident, that wisdom, knowledge, and understanding, are eternal and self-subsistent things, superior to matter and all sensible beings, and independent upon them. Which mystery is thus acknowledged both in Christianity and Platonism, in that wisdom and intellect are made the eternal and first begotten offspring of the first original goodness, the fountain of all things, [1] The Lord possessed me in the beginning of his way, before his works of old. I was set up from everlasting, from the beginning 'ere ever the earth was, etc.

And indeed that opinion, that knowledge, wisdom, and understanding, is in its own nature posterior to sensible and material things, and doth result out of them, or proceed only from the radiation and activity of the matter on that which understands, is nothing else but downright atheism. For if this were not true, that wisdom, knowledge, and intellection were in its own nature posterior to sensible and corporeal things, as being nothing but the stamp or impress of them, then it must needs follow that this corporeal world was not made or framed by any antecedent wisdom or knowledge, but that it sprang up of itself from blind, fortuitous, and giddy motions of eternal atoms; from whence all that knowledge that is in the world did afterward result. Which is all one as to say that there is no God at all.

But if any will here pretend, that there is indeed a knowledge in God antecedent to all corporeal being, and therefore no passion but a thing independent upon matter and self-originated; but yet, notwith-

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[1] Prov. 8 : 22.

standing, the knowledge of all created understandings is not a thing immediately derived from thence, but only taken up at the rebound or second-hand from sensible and corporeal things: this is just as if one should say, that there is indeed a brightness or lucidity in the sun, but yet notwithstanding the light which is in the air, is not derived from that light which is in the body of the sun, but springs immediately out of the power of the dark air; which being a thing apparently absurd, it may be presumed that this assertion is nothing but a verbal and pretended acknowledgement of a God, that has an antecedent and an independent knowledge, made by such as really deny the same; for otherwise, to what purpose should they so violently and distortly pervert the natural order and dependency of things in the universe, and cut off that cognation and connexion which is betwixt things imperfect and things perfect of the same kind, betwixt created minds and the increated mind, which is the intellectual scale or ladder by which we climb up to God, if they did really believe and acknowledge any such thing. But he that can believe that all human knowledge, wisdom, and prudence, has no other source and original than the radiations and impresses of the dark matter, and the fortuitous and tumultuous jumblings thereof; it is justly to be suspected, that he is too near akin to those ancient theologues that Aristotle speaks of, *Οἱ ἐκ νυκτὸς πάντα γεννῶντες·* that fetched the original of God and all things out of night,—or the dark chaos of matter; that held there is no God at all, or that blind and senseless matter and chance are the only original of all things.

CHAP. V.

We formerly showed that the perception of external sense, as such, is a mere relative and phantastical thing: there being nothing absolutely true and real in it, but only this, that the soul hath such a passion, affection, phantasm, appearance, or seeming in it. But sense being but an idiopathy, we cannot be absolutely certain by it, that every other person or animal has the same passion or affection or phantasm in it from the same corporeal object that we ourselves have. *Ἦ σὺ διϊσχυρίσαιο ἂν ὡς οἷόν σοι φαίνεται ἕκαστον χρῶμα τοιοῦτον καὶ ὁτωοῦν ζώῳ; Θεαιτ. μὰ Δί᾽ οὐκ ἔγωγε· Σωκ. τί δ᾽ ἄλλῳ ἄνθρώπῳ ἆρ᾽ ὅμοιον καὶ σοὶ φαίνεται ὅτι οὖν ἔχεις τοῦτο ἰσχυρῶς ἢ πολὺ μᾶλλον ὅτι οὐδέ σοι αὐτῷ ταυτὸν, διὰ τὸ μηδέποτε ὁμοίως αὐτον σεαυτῷ ἔχειν·* Are you certain that every other animal has the same sense or phantasm of every color that you have,

(saith Socrates, according to Protagoras his sense)—nay, that every other man has the same. Or, lastly, can you be so much as sure that yourself shall always have the same phantasm from the same object, when you are not always the same with yourself?—and passions are diversified by the ἰδιοσυγκρασία of the patient.—Wherefore we cannot be sure merely by the passions of sense, what the absolute nature of a corporeal object is without us, our perception being only relative to our selves, and our several organs and bodily crasis.

Nay, we cannot be sure that there is any object at all before us, when we have a phantasm of sensation of something. Forasmuch as not only in our dreams, but also when we are awake, we have phantasms and sensations in us of things that have no reality.

The reason of all which is, because by external sense we do but suffer from corporeal things existing without, and so do not comprehend the nature of the thing as it is absolutely in itself, but only our own passion from it. Neither is our sense a passion immediately from the thing itself that is perceived, for then it would not be altogether so uncertain as it is, but only from certain local motions in that body which the soul is vitally united to, by the mediation whereof it perceives other things at a distance, which local motions and passions may be produced when there are no such objects.

So that if there were no other perceptive power or faculty distinct from external sense, all our perceptions would be merely relative, seeming, and phantastical, and not reach to the absolute and certain truth of any thing; and every one would but, as Protagoras expounds it, *Τὰ ἴδια μόνον δοξάζειν*· think his own private and relative thoughts truths,—and all our cogitations being nothing but appearances, would be indifferently alike true phantasms, and one as another.

2. But we have since also demonstrated, that there is another perceptive power in the soul superior to outward sense, and of a distinct nature from it, which is the power of knowing or understanding, that is an active exertion from the mind itself. And therefore has this grand pre-eminence above sense, that it is no idiopathy, not a mere private, a relative, seeming, and phantastical thing; but the comprehension of that which absolutely is and is not.

For whereas the *τὰ αἰσθητά*, objects of external sense, are nothing but individual corporeal things existing without us, from which by sense we receive only idols, images and passions; by reason of which, as Plotinus observes, *Τὸ γιγνωσκόμενον δι᾽ αἰσθήσεως, τοῦ πράγματος εἴδωλόν ἐστι, καὶ οὐκ αὐτὸ τὸ πρᾶγμα ἡ αἴσθησις λαμβάνει· μένει γὰρ ἐκεῖνο ἔξω*· that which is known by sense, is but an image of that individual body

existing without, which sense suffers from; but the object of sense is a being not inwardly comprehended, but remaining without—and *διὰ τοῦτο ἐν ταῖς αἰσθήσεσιν οὐκ ἔστιν ἀλήθεια ἀλλὰ δόξα, ὅτι παραδεχομένη καὶ διὰ τοῦτο δόξα οὖσα ἄλλο παραδέχεται, ἄλλου ὄντος ἐκείνου ἐξ οὗ τοῦτο ὃ παραδέχεται ἔχει·* for this cause, the truth of the thing is not in sense, but only opinion.

Yet the *τὰ νοητὰ*, the proper and immediate objects of science, rightly so called, and intellection, being the intelligible essences of things and their necessary verities, that exist no where but in the mind itself; the understanding by its active power is fully master of them, and comprehends *αὐτὰ τὰ πράγματα, καὶ οὐκ εἴδωλα μόνον*, not idols or images of them, but the very things themselves,—within itself; *ὁ νοῦς τὰ νοητὰ γινώσκων οὐκ ἕτερα ὄντα γινώσκει*, knowledge is not the perception of things abroad without the mind,—but is the mind's comprehending itself. Otherwise, as the same philosopher adds, *Θεωρήσει αὐτὰ οὐκ ἔχων αὐτὰ, εἴδωλα δ' αὐτῶν——τὸ τοίνυν ἀληθινὸν οὐκ ἔχων, εἴδωλα δέ τοῦ ἀληθοῦς παρ' αὐτῷ λαβὼν, τὰ ψευδῆ ἕξει, καὶ οὐδὲν ἀληθές·* the mind in considering things, will not apprehend the things themselves, but only their images, etc.—

Wherefore it is most true, as Aristotle often observeth, *Ὁ νοῦς ὁ κατ' ἐνέργειαν τὰ πράγματα νοῶν·* that the knowledge of any scientifical theorem is one and the self-same thing with the thing known; *Τὸ αὐτό ἐστι τὸ νοῦν καὶ τὸ νοούμενον·* that which knows, and that which is known, are really the same thing.—*Ἡ ἐπιστήμη ἡ θεωρητικὴ καὶ τὸ ἐπιστητὸν τὸ αὐτό ἐστι·* the knowledge of any metaphysical or mathematical truth is the very thing,—*Τὸ αὐτό ἐστιν ἡ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι·* or truth itself known, and not any passion from it, or image and picture of it.—And though the same philosopher writes elsewhere, that *αἴσθησις* is *τὰ αἰσθητὰ*, and *νόησις τὰ νοητὰ·* sense is the same with sensible things, and understanding the same with the things understood;—yet the difference betwixt those two is very great, for the *τὰ αἰσθητὰ*, sensible things really exist without, and sense has only a passive and phantasmatical representation of them; but the *τὰ νοητὰ*, intellectual conceptions, properly so called, the primary objects of science and intellection, that is, the *τὰ χωριστὰ ἀΐδια καὶ ἀκίνητα*, separate eternal and immutable rationes of things,—exist no where but in the mind itself, being its own ideas: for the soul is, as Aristotle speaks, *τόπος εἰδῶν·* the place of forms and ideas, and they have no other entity at all but only in being known or understood. And by and through these inward ideas of the mind itself, which are its primary objects, does it know and un-

derstand all external individual things, which are the secondary objects of knowledge only.

3. Moreover, that the intellection and knowing perception of the soul is not relative and phantastical as the sensitive, is evident from hence, because it is liable to falsehood, which it could not be, if it had not a power of comprehending absolute truth.

For external sense, for this very reason, is not capable of falsehood, because as such, it does not comprehend the absolute truth of any thing; being only φαντασία, a phantasm or appearance, and all appearances as such are alike true.

So in like manner, if the noetical perceptions of the soul were only phantastical, and did not extend to the comprehension of the absolute truth of things, then every opinion would of necessity be alike true, neither could there be any absolute falsehood in any, because πᾶσα φαντασία ἐστιν ἀληθὴς, every fancy is true, that is, every fancy is a fancy or an appearance, and nothing more is required to it; for absolute truth belongs not to the nature of it. But it is evident to all that are not sunk and degenerated below men into brutish sottishness, that there are false opinions: whence it follows undeniably, that the noetical knowledge and intellective power extends to the absolute truth of things. So that whatever theoretical universal proposition in geometry or metaphysics is true to one mind, the same is absolutely true in itself, and therefore true to all minds whatsoever throughout the whole world, that clearly understand it.

4. Wherefore the immediate objects of knowledge, which are the intelligible essences of things, and their relations to one another or verities, exist no where but in minds; yet notwithstanding they are not figments of the mind, because then every opinion or cogitation would be alike true, that is, a true figment, having no other truth but relative to that particular mind whose figment it is. But these things have an absolute and immutable nature in themselves, and their mutual respects to one another are alike immutable. And therefore those opinions and cogitations of the mind, which are not conformable to the immutable reality of those objective ideas have an absolute falsehood in them. As for example, the nature of a triangle is an immutable thing, and this is demonstrable of it, as immutably and necessarily true, that it hath three angles equal to two right ones: neither can any man's opinion or thinking make it otherwise: for it is a false opinion, unless it be agreeable to the immutable nature of a triangle. So likewise the plain regular geometrical solids, as such, have an immutable nature or essence: and it is demonstrable of them, that there are five such bodies,

and that there can be no more: and any opinion to the contrary will be an absolute falsehood. Wherefore every opinion or thinking is not knowledge, but only a right opinion: and therefore knowledge is not relative, πρὸς τὸ κρίνον, as sense is. Truth is the most unbending and uncompliable, the most necessary, firm, immutable, and adamantine thing in the world.

4. Moreover, because these intelligible essences of things, as before was observed, are like unities indivisible; so that if the least be added to them, or detracted from them, they are not the same, but something else; whenever the same things are rightly understood by any minds, they must of necessity have all the same truths belonging to them every where. Nay, these truths are not at all multiplied, as we observed before, by the multiplicity of minds that apprehend them; but are one and the same individual truths in those several minds: for as much as wisdom, truth, and knowledge are but one and the same eternal original light shining in all created understandings.

To conclude therefore; whenever any theoretical proposition is rightly understood by any one particular mind whatsoever, and wheresoever it be, the truth of it is no private thing, nor relative to that particular mind only, but it is ἀληθὲς καθολικὸν· a catholic and universal truth,—as the Stoics speak, throughout the whole world; nay, it would not fail to be a truth throughout infinite worlds, if there were so many, to all such minds as should rightly understand it.

5. But probably it may be here demanded, how a man shall know when his conceptions are conformed to the absolute and immutable natures or essences of things, and their unchangeable relations to one another? Since the immediate objects of intellection exist in the mind itself, we must not go about to look for the criterion of truth without ourselves, by consulting individual sensibles, as the exemplars of our ideas, and measuring our conceptions by them. And how is it possible to know by measuring of sensible squares, that the diameter of every square is incommensurable with the sides? Nay, as was observed before, the necessary truth of no geometrical theorem can ever be examined, proved, or determined by sensible things mechanically. And though the eternal divine intellect be the archetypal rule of truth, we cannot consult that neither, to see whether our conceptions be commensurate with it. I answer therefore, that the criterion of true knowledge is not to be looked for any where abroad without our own minds, neither in the height above, nor in the depth beneath, but only in our knowledge and conceptions themselves. For the entity of all theoretical truth is nothing else but clear intelligibility, and whatever is clear-

ly conceived, is an entity and a truth; but that which is false, Divine power itself cannot make it to be clearly and distinctly understood, because falsehood is a non-entity, and a clear conception is an entity: and omnipotence itself cannot make a non-entity to be an entity.

Wherefore no man ever was or can be deceived in taking that for an epistemonical truth which he clearly and distinctly apprehends, but only in assenting to things not clearly apprehended by him, which is the only true original of all error.

6. But there is another opinion that seems to have gained the countenance of some very learned philosophers, which differs but a little from the Protagorean doctrine; though for my part I conceive it not to be an opinion, but only a certain scheme of modesty and humility, which they thought decorous to take upon themselves, that they might not seem to arrogate too much either to themselves, or to their excellent performances, by not so much as pretending to demonstrate any thing to be absolutely true, but only hypothetically, or upon supposition that our faculties are rightly made.

For if we cannot otherwise possibly be certain of the truth of any thing, but only ex hypothesi, that our faculties are rightly made, of which none can have any certain assurance but only he that made them, then all created minds whatsoever must of necessity be condemned to an eternal scepsis. Neither ought they ever to assent to any thing as certainly true, since all their truth and knowledge as such, is but relative to their faculties arbitrarily made, that may possibly be false, and their clearest, constant apprehensions nothing but perpetual delusions.

Wherefore according to this doctrine, we having no absolute certainty of the first principles of all our knowledge as that, quod cogitat, est. Æqualia addita æqualibus efficiunt æqualia. Omnis numerus est vel par vel impar, we can neither be sure of any mathematical nor metaphysical truth, nor of the existence of God nor of ourselves.

For whereas some would endeavor to prove the truth of their intellectual faculties from hence, because there is a God whose nature also is such, as that he cannot deceive. It is plain that this is nothing but a circle, and makes no progress at all, forasmuch as all the certainty which they have of the existence of God, and of his nature, depends wholly upon the arbitrary make of their faculties; which, for aught they know, may be false. Nay, according to this doctrine, no man can certainly know that there is any absolute truth in the world at all; because it is nothing but his faculties which makes him think there is,

which possibly may be false. Wherefore upon this supposition, all created knowledge, as such, is a mere fantastical thing.

Now this is very strange to assert, that God cannot make a creature which shall be able certainly to know either the existence of God, or of himself; or whether there be any absolute truth or no.

7. It is evident that this opinion plainly supposes that intellectual faculties may be so made, as clearly and distinctly to understand that to be true which is absolutely false, and impossible (for unless they did acknowledge that we do clearly understand some things, they could not undertake so much as hypothetically to demonstrate any thing) as for example, that the whole is not greater than one of its parts, or that the three angles of a triangle are never equal to two right angles.

Now we have already demonstrated, that a falsehood can never be clearly conceived or apprehended to be true, because a falsehood is a mere non-entity ; and whatsoever is clearly conceived or understood, is an entity; but a non-entity can never become an entity. Nay, the true knowledge or science which exists no where but in the mind itself, has no other entity at all besides intelligibility ; and therefore whatsoever is clearly intelligible, is absolutely true. Hence it comes to pass, that both philosophers and divines have without scruple measured the Divine omnipotence itself, and the possibility of things, by their own clear intellections concerning them ; and so pronounce that God himself cannot make contradictions to be true at the same time ; whereas it were an high and unpardonable presumption thus to venture to measure the Divine omnipotence, if there were not an absolute certainty of the truth of clear intellections, as being nothing else but the immutable wisdom of God participated and imparted to us. And if it be absolutely impossible even to omnipotence, that contradictories should be true together, then omnipotence itself cannot make any such faculties as shall clearly understand that which is false to be true, since the essence of falsehood consists in nothing else but non-intelligibility.

But if they will say that it is not impossible that contradictions should be true, because our faculties, which make us think so, may be false and deceive us in every thing, the necessary consequence from hence will be, that it is possible that there may be no certain knowledge at all, because if contradictories may be true, then nothing can be certainly affirmed or denied of any thing.

8. Wherefore, be our faculties what they will, and let them be supposed to be made how you will, yet notwithstanding whatsoever is clearly understood and conceived, has an objective entity in it, and

must of necessity be true. For a clear conception cannot be nothing. And though intellectual faculties may be made obscure more or less, yet it is not possible that they should ever be made false, so as clearly to apprehend whatsoever is true to be false, and what is false to be true.

So that if there were a world of men created either in the moon or elsewhere, that should affirm the contradictories to all the theorems in geometry; forasmuch as we certainly know that we clearly understand them to be true, and that falsehood can never be clearly understood, we ought not in the least to question from hence whether our faculties or theirs were made true, or to suspect that truth and knowledge were such whiffling things, as that they merely depended upon an arbitrary make of faculties; but conclude without any controversy, that this was but a bedlam world of mad, frantic and distracted souls, that had no clear apprehensions of any thing, and either by mere chance or humor happened to assent to every thing that was false as true.

9. But yet if any one will still pertinaciously urge, that it is nothing but our faculties which instruct us thus, that every clear conception is an entity, and that the entity of truth is nothing but clear intelligibilty; that contradictions cannot be true, or if they could, then there were no possibility of any certain knowledge; that all this is from our faculties, but that still our faculties themselves may be false; nay, it is not reasonable to think that the intellectual faculties of any creatures should be absolutely infallible in any thing, because this seems to be the peculiar privilege and sole prerogative of the Deity.

I answer, that this is the thing we contend for, that the ultimate resolution of theoretical truth, and the only κριτήριον, criterion, of it, is in the clearness of the apprehensions themselves, and not in any supposed blind, and unaccountable make of faculties. So that the certainty of clear apprehensions is not to be derived from the contingent truth of faculties, but the goodness of faculties is only to be tried by the clearness and distinctness of apprehensions. For be these faculties what they will, clear intellectual conceptions must of necessity be truths, because they are real entities. And to suppose that faculties may be so made, as to beget clear apprehensions of things that are not, as if knowledge were an arbitrary fictitious thing, is much like that opinion of some, that all the new celestial phenomena, as of the jovial planets, and the mountains in the moon, and the like, are no real things; but that the clear diaphanous crystal of the telescopes may be so artificially cut, ground and polished, as to make all those, and any other phenomena, clearly to appear to sense, when there is no such thing. Nay, it is more absurd, and ridiculous to imagine, that that more than crystalline

pellucid intellectual faculty, by which we perceive the truth of things, can be arbitrarily so made or polished, as to represent any non-entities whatsoever, as clear and real objects of intellection.

10. Nay, to make the certainty of all truth and knowledge, not to be determined by the clearness of apprehensions themselves, but a supposed unaccountable truth and rectitude of faculties, and so by the uncertainty thereof, quite to baffle all our clearest intellections, is quite to pervert the nature of knowledge, which is *κατάληψις τοῦ ὄντος*, the comprehension of that which absolutely is; which is not terminated in the *τὸ φαινόμενον*, appearance only, as sense is, but in that *τὸ ὄν*, which is, and whose evidence and certainty is no extrinsical, adventitious, and borrowed thing, but native and intrinsical to itself.

For if knowledge have no inward *κριτήριον* of its own, but the certainty of all truth and knowledge depend upon an arbitrary peculiar make of faculties, which is not a thing knowable in itself, neither can there be any assurance of it given but what is extrinsical by testimony and revelation (inartificial arguments), there will be no such thing as knowledge, but all will be mere credulity and belief.

11. It is a fond imagination for any to suppose that it is derogatory to the glory of God, to bestow or import any such gift upon his creatures as knowledge is, which hath an intrinsical evidence within itself, or that creatures should have a certainty of the first principles, which all men are conscious that they do so clearly understand, that they cannot doubt of them, as that nihili nulla est affectio. Æqualia addita æqualibus efficient æqualia; without which they can know nothing at all; though they be notwithstanding ignorant, doubting, and erring in many things, and slowly proceed in their ratiocinations from one thing to another; whereas on the contrary, it is plainly derogatory to it to suppose that God cannot make any creature, that can possibly have any certain knowledge of God's own existence, or any thing more than a bare credulity of the same.

12. Wherefore since it cannot be denied but every clear apprehension is an entity, and the essence of truth is nothing but clear intelligibility, those philosophers must lay the stress of their cause here, that intellectual faculties may be so made, as that men can never certainly tell when they have clear apprehensions, but may think they have them, when they have not.

And it cannot be denied but that men are oftentimes deceived, and think they clearly comprehend what they do not; but it does not follow from hence, because men sometimes think they clearly comprehend what they do not, that therefore they can never be certain that

they do clearly comprehend any thing; which is just as if we should argue, that because in our dreams we think we have clear sensations, we cannot therefore be ever sure, when we are awake, that we see things that really are.

I shall conclude this discourse with that of Origen against Celsus. *Μόνον τῶν ὄντων βέβαιον ἐπίστημα·* Science and knowledge is the only firm thing in the world,—without a participation of which communicated to them from God, all creatures would be mere ludibria and vanity.

CHAP. VI.

1. We have now abundantly confuted the Protagorean philosophy, which, that it might be sure to destroy the immutable natures of just and unjust, would destroy all science or knowledge, and make it relative and fantastical. Having showed that this tenet is not only most absurd and contradictious in itself, but also manifestly repugnant to that very Atomical physiology, on which Protagoras endeavored to found it, and, than which nothing can more effectually confute and destroy it: and also largely demonstrated, that though sense be indeed a mere relative and phantastical perception, as Protagoras thus far rightly supposed; yet notwithstanding there is a superior power of intellection and knowledge of a different nature from sense, which is not terminated *ἐν τῷ φαινομένῳ*, in mere seeming and appearance only, but *ἐν τῷ ὄντι*, in the truth and reality of things, and reaches to the comprehension of that which really and absolutely is, whose objects are the eternal and immutable essences and natures of things, and their unchangeable relations to one another.

2. To prevent all mistake, I shall again remember, what I have before intimated, that where it is affirmed that the essences of all things are eternal and immutable; which doctrine the theological schools have constantly avouched, this is only to be understood of the intelligible essences and rationes of things, as they are the objects of the mind. And that there neither is nor can be any other meaning of it, than this, that there is an eternal knowledge and wisdom, or an eternal mind or intellect, which comprehends within itself the steady and immutable rationes, of all things and their verities, from which all particular intellects are derived, and on which they do depend. But not that the consti-

tutive essences of all individual created things were eternal and uncreated, as if God in creating of the world, did nothing else, but as some sarcastically express it, sartoris instar rerum essentias vestire existentia, only clothed the eternal, increated, and antecedent essences of things with a new outside garment of existence, and not created the whole of them. And as if the constitutive essences of things could exist apart separately from the things themselves, which absurd conceit Aristotle frequently and no less deservedly chastises.

3. Wherefore the result of all that we have hitherto said is this, that the intelligible natures and essences of things are neither arbitrary nor fantastical, that is, neither alterable by any will whatsoever, nor changeable by opinion; and therefore every thing is necessarily and immutably to science and knowledge what it is, whether absolutely, or relatively, to all minds and intellects in the world. So that if moral good and evil, just and unjust, signify any reality, either absolute or relative, in the things so denominated, as they must have some certain natures, which are the actions or souls of men, they are neither alterable by mere will nor opinion.

Upon which ground that wise philosopher Plato, in his Minos, determines that νόμος, a law, is not δόγμα πόλεως, any arbitrary decree of a city or supreme governors; because there may be unjust decrees, which therefore are no laws, but τοῦ ὄντος ἐξεύρεσις, the invention of that which is, or which is absolutely or immutably just, in its own nature. Though it be very true also, that the arbitrary constitutions of those that have lawful authority of commanding, when they are not materially unjust, are laws also in a secondary sense, by virtue of that natural and immutable justice or law that requires political order to be observed.

4. But I have not taken all this pains only to confute skepticism or fantasticism, or merely to defend and corroborate our argument for the immutable natures of just and unjust; but also for some other weighty purposes that are very much conducing to the business that we have in hand. And first of all, that the soul is not a mere rasa tabula, a naked and passive thing, which has no innate furniture or activity of its own, nor any thing at all in it, but what was impressed upon it without; for if it were so, then there could not possibly be any such thing as moral good and evil, just and unjust; forasmuch as these differences do not arise merely from the outward objects, or from the impresses which they make upon us by sense, there being no such thing in them; in which sense it is truly affirmed by the author of the Leviathan, (page 24), that there is no common rule of good and evil to be taken from the nature

of the objects themselves,—that is, either considered absolutely in themselves, or relatively to external sense only, but according to some other interior analogy which things have to a certain inward determination in the soul itself, from whence the foundation of all this difference must needs arise, as I shall show afterwards; not that the anticipations of morality spring merely from intellectual forms and notional ideas of the mind, or from certain rules or propositions, arbitrarily printed upon the soul as upon a book, but from some other more inward and vital principle, in intellectual beings, as such, whereby they have a natural determination in them to do some things, and to avoid others, which could not be, if they were mere naked passive things. Wherefore since the nature of morality cannot be understood, without some knowledge of the nature of the soul, I thought it seasonable and requisite here to take this occasion offered, and to prepare the way to our following discourse, by showing in general, that the soul is not a mere passive and receptive thing, which hath no innate active principle of its own, because upon this hypothesis there could be no such thing as morality.

5. Again, I have the rather insisted upon this argument also, because that which makes men so inclinable to think that justice, honesty and morality are but thin, airy and fantastical things, that have little or no entity or reality in them besides sensuality, is a certain opinion in philosophy which doth usually accompany it, that matter and body are the first original and source of all things: that there is no incorporeal substance superior to matter, and independent upon it. And therefore that sensible things are the only real and substantial things in nature; but souls and minds springing secondarily out of body, that intellectuality and morality which belong unto them, are but thin and evanid shadows of sensible and corporeal things, and not natural, but artificial and factitious things that do as it were border upon the confines of non-entity.

6. This is a thing excellently well observed by Plato, and therefore I shall set down his words at large concerning it. *Λέγουσί που τινὲς ὡς πάντα ἐστι τὰ πράγματα τὰ μὲν φύσει, τὰ δὲ τέχνῃ, τὰ δὲ διὰ τύχην. Ἐοίκε δὲ φασὶ, τὰ μὲν μέγιστα αὐτῶν καὶ κάλλιστα ἀπεργάζεσθαι φύσιν καὶ τύχην, τὰ δὲ σμικρότερα τέχνην· ἣν δὲ παρὰ φύσεως λαμβάνουσαν τὴν τῶν μεγάλων καὶ πρώτων γένεσιν ἔργων πλάττειν καὶ τεκταίνεσθαι πάντα τὰ σμικρότερα, ἃ δὴ τεχνικὰ πάντες προσαγορεύομεν. Ὧδ' ἔτι σαφέστερον ἐρῶ. Πῦρ καὶ ὕδωρ καὶ γῆν καὶ ἀέρα φύσει πάντα εἶναι καὶ τύχῃ φασὶ, τέχνῃ δὲ οὐδὲν τούτων· καὶ τὰ μετὰ ταῦτα αὖ σώματα γῆς τε καὶ ἡλίου καὶ σελήνης ἄστρων τε περὶ, διὰ τούτων γεγονέναι παντελῶς ὄντων ἀψύχων. Τύχῃ δὲ φερόμενα τῇ τῆς δυνάμεως ἕκαστα ἑκάστων, ᾗ ξυμπέπτωκεν ἁρμόττοντα οἰκείως πῶς θερμὰ ψυ-*

χροῖς, ἢ ξηρὰ πρὸς ὑγρά, καὶ μαλακὰ πρὸς σκλῆρα· καὶ πάντα ὁπόσα τῇ τῶν ἐναντίων κράσει κατὰ τύχην ἐξ ἀνάγκης συνεκεράσθη. Ταύτῃ καὶ κατὰ ταῦτα οὕτω γεγεννηκέναι τόν τε οὐρανὸν ὅλον καὶ πάντα ὁπόσα κατ᾽ οὔρανον· καὶ ζῶα αὖ καὶ φυτὰ ξύμπαντα ὡρῶν πασῶν ἐκ τούτων γενομένων· οὐ διὰ νοῦν φασὶν, οὐδὲ διά τινα θεὸν, οὐδὲ δια τέχνην, ἀλλὰ ὃ λέγομεν φύσει καὶ τύχῃ. Τέχνην δὲ ὕστερον ἐκ τούτων ὕστεραν γενομένην αὐτὴν θνητὴν ἐκ θνητῶν, ὕστερα γεγενηκέναι παιδείας τινὰς, ἀληθείας οὐ σφόδρη μετεχούσας, ἀλλ᾽ εἴδωλα ἄττα συνγγενῆ ἑαυτῶν· οἷα ἡ γραφὴ γεννᾷ καὶ Μουσικὴ, καὶ ὅσαι ταύταις εἰσὶ συνέριθοι τέχναι· οὕτω δὲ καὶ τὴν νομοθεσίαν πᾶσαν οὐ φύσει, τέχνῃ δὲ, ἧς οὐκ ἀληθεῖς· εἶναι τὰς θέσεις· These men making this distribution of things, that all things that are, are either by nature, or art, or chance, they imagine that the greatest and most excellent things that are in the world, are to be attributed to nature and chance; which working upon those greater things which are made by nature, does form and fabricate certain smaller things afterward, which we commonly call artificial things. To speak more plainly, fire, water, air, and earth, they attribute wholly to nature and chance, but not to any art or wisdom; in like manner those bodies of the earth, the sun, moon and stars, they will have to be made out of them fortuitously agitated; and so by chance causing both divers systems and compages of things: thus they would have the whole heavens made, and all the earth and animals, and all the seasons of the year, not by any mind intellect, or God, not by any art or wisdom, but all by blind nature and chance. But art and mind afterwards springing up out of these, to have begotten certain ludicrous things, which have little truth and reality in them, but are like images in a glass, such as picture and music produces. Wherefore these men attribute all ethics, politics, morality, and laws, not to nature, but to art, whose productions are not real and substantial.—

7. Now this philosopher, that he may evince that ethics, politics and morality are as real and substantial things, and as truly natural as those things which belong to matter, he endeavors to show that souls and minds do not spring secondarily out of matter and body, but that they are real things in nature, superior and antecedent to body and matter. His words are these: Ψυχὴν ὦ ἑταῖρε ἠγνοηκέναι κινδυνεύουσι μὲν ὀλίγου ξύμπαντες, οἷόν τε ὂν τυγχάνει καὶ δύναμιν ἣν ἔχει, τῶν τε ἄλλων αὐτῆς πέρι, καὶ δὴ καὶ γενεσεως ὡς ἐν πρώτοις ἐστι σωμάτων ἔμπροσθεν πάντων γενομένη, καὶ μεταβολῆς τε αὐτῶν καὶ μετακοσμήσεως ἁπάσης ἄρχη παντὸς μᾶλλον· These men are all ignorant concerning the nature of mind and soul, as in other regards, so especially in respect of its original, as it is in order of nature before matter and body, and does not result out of it; but does command it, govern it, and rule it.

And I have in like manner in this antecedent discourse, endeavored to show that wisdom, knowledge, mind and intellect, are no thin shadows or images of corporeal and sensible things, nor do result secondarily out of matter and body, and from the activity and impressions thereof; but have an independent and self-subsistent being, which in order of nature, is before body; all particular created minds being but derivative participations of one infinite eternal mind, which is antecedent to all corporeal things.

8. Now from hence it naturally follows, that those things which belong to mind and intellect, such as morality, ethics, politics and laws are, which Plato calls, *νοῦ γεννήματα οὐχ ἧττον φύσει εἶναι ἢ φύσεως·* The offspring and productions of mind, are no less to be accounted natural things, or real and substantial, than those things which belong to stupid and senseless matter:—for since mind and intellect are first in order of nature before matter and body, those things which belong to the mind must needs be in order of nature before those things which belong to the body. *Ἄρα οὐκ ἐξ ἀνάγκης τὰ ψυχῆς συγγενῆ πρότερα ἂν εἴη γεγονότα τῶν σώματι προσηκόντων, οὔσης ταύτης πρεσβυτέρας ἢ σώματος, νοῦς καὶ τέχνη καὶ νόμος καὶ τρόπος καὶ ἤθη σκληρῶν καὶ μαλακῶν, βαρέων καὶ κούφων, μηκοῦς σωμάτων καὶ πλάτους πρότερα·* Wherefore mind and intellect, art and law, ethics and morality are first in order of nature, before hard and soft, light and heavy, long and broad, which belong to body;—and therefore more real and substantial things. For since mind and intellect are a higher, more real and substantial thing than senseless body and matter, and what hath far the more vigor, activity and entity in it, modifications of mind and intellect, such as justice and morality, must of necessity be more real and substantial things, than the modifications of mere senseless matter, such as hard and soft, thick and thin, hot and cold, and the like are. And therefore that grave philosopher excellently well concludes, *τὰ μεγάλα καὶ πρῶτα ἔργα καὶ πράξεις τέχνης ἂν γίγνοιτο ὄντα ἐν πρώτοις, τὰ δὲ φύσει καὶ φύσις (ἣν οὐκ ὀρθῶς ἐπονομάζουσιν) αὐτο τοῦτο, ὕστερα καὶ ἀρχόμενα ἂν ἐκ τέχνης εἴη καὶ νοῦ·* that the greatest and first works and actions are of art or of mind, which were before body; but those things which are said to be by nature (in which they abuse the word nature, appropriating it only to senseless and inanimate matter) are afterwards, being governed by mind and art.—

9. Wherefore I thought our former discourse seasonable to confute the dullness and grossness of those philosophasters that make corporeal things existing without the soul, to be the only solid and substantial things, and make their grossest external senses the only judges of reality of things, *οἱ οὐδὲν ἄλλο οἰόμενοι εἶναι ἢ οὗ ἂν δύνωνται ἅπτειν ταῖν χε-*

ροῖν λαβέσθαι· and so conclude nothing is or has any reality but what they can grasp in their hands, or have some gross or palpable sense of.—

Whereas notwithstanding it is most true that those corporeal qualities, which they think to be such real things existing in bodies without them, are for the most part fantastic and imaginary things, and have no more reality than the colors of the rainbow; and, as Plotinus expresseth it, καὶ οὐκ ἐν τοῖς ὑποκειμένοις, ἀλλ' ἐν τοῖς πάθεσιν ἔχει τὴν ὑπόστασιν· have no reality at all in the objects without us, but only a seeming kind of entity in our own fancies;—and therefore are not absolutely any thing in themselves, but only relative to animals. So that they do in a manner mock us, when we conceive of them as things really existing without us, being nothing but our own shadows, and the vital passive energies of our own souls.

Though it was not the intention of God or nature to abuse us herein, but a most wise contrivance thus to beautify and adorn the visible and material world, to add lustre or embellishment to it, that it might have charms, relishes and allurements in it, to gratify our appetites; whereas otherwise really in itself, the whole corporeal world in its naked hue, is nothing else but a heap of dust or atoms, of several figures and magnitudes, variously agitated up and down; so that these things, which we look upon as such real things without us, are not properly the modifications of bodies themselves, but several modifications, passions and affections of our souls.

10. Neither, are these passive and sympathetical energies of the soul, when it acts confusedly with the body and the pleasures resulting from them, such real and substantial things as those that arise from the pure noetical energies of the soul itself intellectually and morally; for since the mind and intellect is in itself a more real and substantial thing, and fuller of entity than matter and body, those things which are νοῦ γεννήματα, the pure offspring of the mind, and sprout from the soul itself, must needs be more real and substantial than those things which blossom from the body, or from the soul enfeebled by it, and slumbering in it.

11. Wherefore that philosopher professing and understanding to confute atheists, and to show, τοὺς λόγων ἁπτομένους ἀσεβῶν μηδὲ εὖ τοῖς λόγοις ἀλλ' ἐξμοαρτημένως χρᾶσθαι· That all atheists, though they pretend to wit never so much, are but bunglers at reason, and sorry philosophers, he, not without cause, fetches his discourse from hence, that ὅτι ὁ πρῶτον γενέσεως καὶ φθορᾶς ἄιτιον ἁπάντων, τοῦτο οὐ πρῶτον ἀλλ' ὕστερον ἀπεφήναντο εἶναι γεγονὸς οἱ τὴν τῶν ἀσεβῶν ψυχὴν ἀπεργασάμενοι λόγοι, ὁ δὲ ὕστερον πρότερον, ὅθεν ἡμαρτήκασι περὶ θεῶν τῆς ὄντως οὐσίας· They

that thus infect men's minds with impiety and atheism, make that which is the first cause of all generation and corruption, to be the last thing in the universe, and that which is the last to be the first: from hence proceeds their error concerning the being of God;—that is, they make mind and soul to be the last thing, and body and matter to be the first.

This therefore is the only course and method which this philosopher proceeds in to confute the atheists; to show, *ψυχὴν μὲν προτέραν γεγονέναι σώματος, σῶμα δὲ δεύτερόν τε καὶ ὕστερον, ψυχῆς ἀρχούσης ἀρχόμενον κατὰ φύσιν·* that mind and soul, in the order of the universe, are before body, and not posterior to it; mind and soul being that which rules in the universe, and body that which is ruled and ordered by it.—And there is no phenomenon in the world but may be solved from this hypothesis.

Now this he demonstrates, even from local motion, because body and matter has no self-moving power, and therefore it is moved and determined in its motion by a higher principle, a soul or mind; which argument is further improved by the author of that excellent philosophical treatise, book II. chap. 11.

12. Now, for the self-same cause, I have endeavored to demonstrate in the foregoing discourse, that knowledge and intellection cannot possibly spring from sense, nor the radiation or impresses of matter and body upon that which knows, but from an active power of the mind, as a thing antecedent to matter, and independent upon it, whereby it is enabled from within itself to exert intelligible ideas of all things.

13. Lastly, I have insisted the rather so largely upon this argument, for this further reason also, because it is not possible that there should be any such thing as morality, unless there be a God, that is, an infinite eternal mind that is the first original and source of all things, whose nature is the first rule and exemplar of morality; for otherwise it is not conceivable, whence any such thing should be derived to particular intellectual beings. Now there can be no such thing as God, if stupid and senseless matter be the first original of all things; and if all being and perfection that is found in the world, may spring up and arise out of the dark womb of unthinking matter; but if knowledge and understanding, if soul, mind and wisdom may result and emerge out of it, then doubtless every thing that appears in the world may; and so night, matter, and chaos, must needs be the first and only original of all things.

14. Wherefore Plato, as I have already intimated, taking notice of the opinion of divers pretenders to philosophy, *πῦρ καὶ ὕδωρ καὶ γῆν, καὶ ἀέρα πρῶτα ἡγεῖσθαι τῶν πάντων εἶναι καὶ τὴν φύσιν ὀνομάζειν ταῦτα αὐτά,*

ψυχὴν δὲ ἐκ τούτων ὕστερον· that fire, water, air and earth, are the first beings of all, to which senseless and inanimate things they appropriate the title of nature: but that soul did spring up afterward out of these as a secondary thing,—and as a mere shadow of them, he immediately adds concerning it, οἷον πήγην τινα ἀνοήτου δόξης ἀνευρήκαμεν ἀνθρώπον ὁπόσον πώποτε τῶν περὶ φύσεως ἐφήψαντο ζητημάτων· we have here found and discovered the true fountain of all that atheistical madness that possesses most of those that deal in physiology or questions of natural philosophy,—viz. that they are all possessed with this sottishness, that matter and body is the first original of all things; and therefore it is observed by the same author, that the same persons that held all things were derived from body, blind nature and chance, did both deny the existence of God, and which is consentaneous thereunto, asserted, that justice and morality have no nature or entity at all, saying, they were nothing but passion from corporeal things, without the sentient or the renitence, or the reaction made upon local motion in a body duly mixed and tempered: that is, if soul and mind, knowledge and wisdom may thus arise from the contemplation of mere senseless matter, and radiation or impression that is the mere local motion of corporeal objects without, then, as we said before, there cannot possibly be the least shadow of argument left to prove a deity by; since not only the souls of men, but also all that wisdom, counsel and contrivance that appears in the frame of the whole visible world, might first arise in like manner from the mere casual concourse and contemperation of the whole matter; either in those particular bodies of the sun and stars, or else in the whole system and compages of the material world itself.

15. Wherefore we have not only showed that all intellection and knowledge does not emerge or emane out of sense, but also that sense itself is not a mere passion or reception of corporeal impresses without, but that it is an active energy and vigor, though sympathetical in the sentient. And it is no more possible that this should arise out of senseless matter and atoms, by reason of any particular contemperation or contexture of them in respect of figure, site and motion, than that which all atheists stoutly deny, that something should arise out of nothing.

And here we can never sufficiently applaud that ancient atomical philosophy, so successfully revived of late by Cartesius, in that it shows distinctly what matter is, and what it can amount unto, namely, nothing else but what may be produced from mere magnitude, figure, site, local motion and rest; from whence it is demonstrably evident and mathematically certain, that no cogitation can possibly arise out of the

power of matter; whereas that other philosophy which brings in a dark unintelligible matter that is nothing and every thing, out of whose potentiality not only innumerable qualities, but also substantial forms and sensitive souls, (and therefore why not rational also, since all reason emerges out of sense) may be educed, must of necessity perpetually brood and hatch Atheism. Whereas we cannot but extremely admire that monstrous dotage and sottishness of Epicurus, and some other spurious pretenders to this atomical philosophy, that notwithstanding they acknowledge nothing else in matter besides magnitude, figure, site and motion, yet would make not only the power of sensation, but also of intellection and ratiocination, and therefore all human souls, to arise from the mere contexture of corporeal atoms, and utterly explode all incorporeal substances; than which two assertions nothing can be more contradictious. And this is far more absurd, to make reason and intellection to arise from magnitude, figure and motion, than to attribute those unintelligible qualities to matter which they explode.

CONTENTS.

BOOK I.

CHAP. I.

THAT there have been some in all ages, who have maintained, that good and evil, just and unjust, were not naturally and immutably so, but only by human laws and appointment. An account of the most ancient of them from Plato and Aristotle; as also from Diogenes Laertius and Plutarch. Also in this latter age some have affirmed that there is no incorporeal substance, nor any natural difference of good and evil, just and unjust. The opinion of some modern theologers proposed, with its necessary consequences, owned by some of them, by others disowned; but all agreeing in this, that things morally good and evil, just and unjust, are not so by nature, and antecedent to the Divine command, but by Divine command and institution . . . . Page 7

CHAPTER II.

That good and evil, just and unjust, honest and dishonest, cannot be arbitrary things without nature made by will. Every thing must by its own nature be what it is, and nothing else. That even in positive laws and commands, it is not mere will that obligeth, but the natures of good and evil, just and unjust, really existing. The distinction betwixt things naturally and positively good and evil, more clearly explained. No positive command makes any thing morally good or evil, just or unjust; nor can oblige otherwise than by virtue of what is naturally just . . 13

CHAPTER III.

That the opinion of those who affirm that moral good and evil, just and unjust, depend upon the arbitrary will of God, implies a contradiction. The essences of things not convertible into one another. Particular essences depend not on the arbitrary will of God. That there is in God a nature of goodness superior to wisdom, which measures and determines his wisdom, as this does his will. A mystical or enigmatical representation of the nature of God 18

BOOK II.

CHAPTER I.

That, to avoid the force of what is above demonstrated, some philosophers have denied there was any immutable nature of essence, affirming all being and knowledge to be fantastical and relative, of whom Protagoras the Abderite was the chief; whose intent in proposing it, and a consequence thereof was, the destroying of all morality, and to disprove the absolute and immutable nature of good and evil, just and unjust . 24

CHAPTER II.

The pretences or grounds for this opinion considered. That it was grounded on the Heraclitical philosophy, which introduced a movable essence, affirming that nothing stood, but all things moved. Protagoras's inference from hence, who to the Heraclitical added the old Atomical or Phenician philosophy, and by this mixture made up his own . 26

CHAPTER III.

That the Atomical or Mechanical philosophy was known to Protagoras, who lived before Democritus. A brief account of it. That by the motion of particles all things are generated and corrupted is asserted by him, and that all sensible qualities are nothing without us, but only passions and sensations in us 28

CHAPTER IV.

That the Atomical philosophy is more ancient than the Trojan war, and was invented by one Moschus a Sidonian. That this Moschus the Phenician is the same with Mochus the physiologer, who is the same with Moses the Jewish lawgiver. That Plato and Aristotle were not unacquainted with this Phenician philosophy, which was rejected by Plato because abused to skepticism, as also by Aristotle; but revived by Epicurus, who so blended it with impiety and immorality, that it soon sunk again. It hath been successfully restored in the last age . . 31

CHAPTER V.

That the paradoxes Protagoras and others grounded on this Atomical philosophy, are absurd and contradictions, and inconsequent from it; and the assertion that nothing is absolutely true, but only relatively to him that thinks so, is no less absurd, and overturns itself . . . 36

CHAPTER VI.

That these assertions of Protagoras, knowledge is sense, and knowledge is but fantastical and relative, are effectually overturned by the Atomical philosophy; of which the genuine result is, that sense alone is not the judge of what does really and absolutely exist, but that there is another principle in us superior to sense 38

BOOK III.

CHAPTER I.

What sense is, and that it is not knowledge. How sensation is performed. The soul is passive in sensation, though not altogether so. Various kinds of sensations 41

CHAPTER II.

That sense is a confused perception obtruded on the soul from without, but knowledge the active energy of an unpassionate power in the soul, which is vitally united to the body. The difference betwixt sensitive and intellectual cogitation, and their different uses in general . . 45

CHAPTER III.

The difference between sense or sensation and intellection or knowledge described more accurately in five particulars, with a further explication and demonstration from Plato 48

CHAPTER IV.

A further proof that sense is not science, illustrated by several instances. Sense is only a seeming or appearance of things corporeal existing, which may be, though the things have not a real existence. Reasons of this. Phantasms and sensible ideas are really or materially the same thing. Phantasms voluntary and involuntary. That phantasms may become sensations, and e contra 53

BOOK IV.

CHAPTER I.

That knowledge is an inward active energy of the mind, not arising from things acting from without. Sense is not a mere passion, but a passive perception of the soul, having something of vital energy, and is a cogitation. The immediate objects of intellection not things without the mind, but the ideas of the mind itself, which is not weakened by the most radiant and illustrious truths, as the sense is by what is exceedingly sensi-

ble. Hath a criterion in itself whereby to know when it hath found what it sought. Two kinds of perceptive cogitations in the soul, the one passive, which are either *αἰσθήματα*, sensations, or *φαντάσματα*, imaginations; the other kind are called *νόηματα*. That the *νόηματα* are not raised out of the phantasmata by the intellectus agens 63

CHAPTER II.

That some ideas of the mind proceed not from outward sensible objects, but arise from the inward activity of the mind itself. The cause of men's mistake herein. How far the passion of sense reaches, and where the mind's activity begins. Sense no competent judge of the reality of relative ideas, which though they were mere notions of the mind or modes of conceiving, yet it follows not that they have no reality. They are not disagreeable to the reality of things, and so not false. The beauty, the strength and ability of natural and corporeal things, depend upon these relations and proportions. Instances proposed to illustrate this matter. All the ideas of things artificial have something in them that never came from sense. This true of plants and animals. No essential difference betwixt natural compounded and artificial things. Sense has no idea of the cogitative being joined to rational animals, nor of the universe as it is one corporeal frame, much less of the ideas or modes of thinking beings 72

CHAPTER III.

That even simple corporeal things, passively perceived by sense, are known or understood only by the active power of the mind. That sensation is not knowledge of these things, much less any secondary result from sense. Besides esthemata and phantasmata, there must be noemata or intelligible ideas coming from the mind itself. This confirmed and illustrated by several instances and similitudes. That there is an intelligible idea of a triangle inwardly exerted from the mind, distinct from the phantasm or sensible idea; both which may be in the mind together. Some sensible ideas not impressed on the soul by things without. That sense is a kind of speech of outward nature conversing with the mind. Two kinds of perceptive powers in the soul. Knowledge does not begin, but end in individuals. A double error of vulgar philosophers. Immediate objects of all geometrical science are the intelligible and universal ideas of a triangle, etc. exerted from the mind, and comprehended in it 89

CHAPTER IV.

That individual material things cannot be the immediate objects of intellection and knowledge, besides which there must be some other kind of beings or entities, as the immediate objects of them, such things as do not flow, but remain immutably the same. These immutable entities, what they are, from whence, and where they exist. That there is an eternal mind, from which all created understandings are constantly furnished with ideas. Conclusion, that wisdom, knowledge and understanding, are eternal and self-subsistent things, superior to matter, and all sensible things 110

CHAPTER V.

That the intelligible notions of things, though existing only in the mind, are not figments of the mind, but have an immutable nature. The criterion of truth. The opinion, that nothing can be demonstrated to be true absolutely, but only hypothetically, refuted. Whatever is clearly intelligible, is absolutely true. Though men are often deceived, and think they clearly comprehend what they do not; it follows not, that they can never be certain that they clearly comprehend any thing. The conclusion with Origen, that science and knowledge is the only firm thing in the world 120

CHAPTER VI.

In what sense the essences of things are eternal and immutable. Every thing is what it is, to science or knowledge whether absolutely or relatively, unchangeable by any mind; so that if moral good and evil, just and unjust, in things so denominated, as the actions or souls of men, they must have some certain natures unalterable by any will or opinion. That the soul is not a mere rasa tabula. That it is in order of nature before the body and matter, does not result out of it, but commands, governs and rules it. The whole corporeal world a heap of dust and atoms. There can be no such thing as morality, unless there be a God. The commendation of the Atomical philosophy successfully revived by Cartesius. Epicurus taxed for his sottishness 129

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